READINGS IN MONEY & BANKING

EDITED BY

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Preface

THE past few years have seen an enormous increase in the numbers of students, for the most part ex-service men, in our universities. During the present session particularly, and for some time to come, there will be unusually large enrolments in the senior years. To provide adequate library facilities for unprecedented numbers of students is a major problem.

Much information is to be found in scattered volumes, some out of print, and in periodical literature which cannot be made easily accessible in the present circumstances. The present volume represents an emergency effort to ease the library situation by making available a sample of the wealth of literature in the field of money and banking. It is designed to *supplement* the following texts: *Monetary Theory* (Philadelphia, 1946) by G. N. Halm, *Central Banking in the British Dominions* (Toronto, 1940) by A. F. W. Plumptre, and *Fiscal Policy and Business Cycles* (New York, 1941) by A. H. Hansen. It is not intended to supplant diligent library work in the broad fields of which this volume is but a meagre sample.

A perusal of the table of contents will show that readings have been incorporated from several of the related fields of monetary theory and policy: commercial banking and the capital market in Canada, industrial fluctuations and fiscal policy, the rate of interest and the international balance of payments. In Parts One and Four particularly, there is an emphasis on Canadian material, although much of the general subject matter is by no means peculiar to the Canadian economy. Parts Two and Three treat more generally various theoretical and analytical questions, but again, reference to the Canadian scene is apparent.

Part One of the present volume includes a limited number of readings covering particular aspects of the Canadian banking system and capital market. The student of Canadian banking can find the early history in the writings of Adam Shortt (*The Early History of Canadian Currency and Exchange under French Rule,* Toronto, 1898-1899), and in the comprehensive volume by R. M. Breckenridge (*The Canadian Banking System 1817-1890,* Toronto, 1894). A more limited survey of Canadian banking for the period from

Confederation until the late nineteen-twenties is presented in a study by B. H. Beckhart (*The Banking System of Canada,* New York, 1929), and analyses of more recent trends in the volumes *Canadian Banking* (Toronto, rev. ed. 1941) by E. L. S. Patterson and *The Canadian Banking System* (Boston-New York, 1938) by James Holladay. For a description of the Canadian capital market and the development of central banking in Canada, the Canadian student is referred to the volume by A. F. W. Plumptre mentioned above. In addition, Governmental reports such as that of the Royal Commission on Currency and Finance, 1933, constitute a most important field of source material.

Part Two includes but four articles from the general field of industrial fluctuations and fiscal policy. Since the publication of Wesley C. Mitchell's *Business Cycles* in 1913, the study of industrial fluctuations has proceeded apace. For an introduction to this subject the student may consult such works as *Prosperity and Depression,* (Geneva, rev. ed. 1941) of Professor Haberler, and *Readings in Business Cycle Theory* (Philadelphia, 1944), prepared by the American Economic Association. The latter volume has an invaluable classified bibliography of articles which have appeared in various academic journals. In recent years the writings of Lord Keynes, which have profoundly influenced economic thinking, have given an impetus to the more specific study of fiscal policy in relation to industrial flucuations.

Part Three comprises little of monetary theory *per se,* inasmuch as the text on monetary theory is an adequate introduction to this branch of study. Professor Haberler's volume, mentioned above, as well as the recent volumes *Readings in Business Cycle Theory* (Philadelphia, 1944), and *Readings in the Theory of Income Distribution* (Philadelphia, 1946), prepared by the American Economic Association, offer excellent collections of articles in monetary theory and policy. As Professor Haberler has observed, "the theory of interest has for a long time been a weak spot in the science of economics, and the explanation and determination of the interest rate still gives rise to more disagreement than any other branch of general theory."[1] Except for the article by A. P. Lerner on "Keynesian economics," Part Three is not concerned with the controversial studies on the rate of interest, but rather with articles of a more descriptive nature.

[1] Gottfried Haberler: *Prosperity and Depression,* p. 195.

From the numerous studies, descriptive and analytical, in the problems of foreign exchange and the international balance of payments, four articles are included in Part Four. As noted above, this section places emphasis upon theoretical problems viewed in their Canadian setting. Discussion of international monetary collaboration has been omitted, the student being referred to the excellent survey in the revised edition of *Monetary Theory* by G. N. Halm. Wartime developments in the Canadian balance of international payments may be studied in the article by Professor F. A. Knox of Queen's University in the August 1947 issue of the *Canadian Journal of Economics and Political Science.*

Although acknowledgements are made at the beginning of each chapter to the individual authors whose material has made this volume possible, an additional expression of gratitude should be made. Equally co-operative have been the various publishers: Ryerson Press (Toronto), Henry Holt and Co. (New York), the University ot Toronto Press, the *Encyclopedia of Canada,* the International Labour Office, and the American Economic Association, in their kind permission to use material within their copyrights.

The usual preface acknowledgements of the efforts of Professor H. A. Innis, upon whose advice and insistence the volume was undertaken, are most inadequate. Thanks are due to Professor G. A. Elliott and Professor V. W. Bladen, whose experience and advice were kindly given to the entire volume; Professor D. C. MacGregor and Mr. W. C. Hood of the University of Toronto; Professor F. A. Knox of Queen's University; and to Mr. R. V. Anderson of the International Monetary Fund whose previous work materially shaped the nature of this volume. The arduous task of proofreading has been shared by Mr. G. D. Hughes.

The special efforts of Mr. Burns and members of the editorial staff of the University of Toronto Press have made it possible to complete the volume to meet the emergency demands of the present university session.

E.M.R.

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Part One

BANKING AND THE CAPITAL MARKET IN CANADA

CHAPTER I

Creation of Credit

E. M. ROSENGREN

THE process of banking must be considered in terms of flows—cash is continually being deposited and withdrawn from the banks, loans are continually being made and maturing, securities are continually being bought and sold. Keeping this in mind, we shall consider why an individual bank must maintain cash reserves. There is a constant stream of cash flowing into and out of the bank: the problem of the bank is to equalize these streams. An excess of cash flowing in would result in higher reserves than are customarily or legally necessary, and loss of earnings to the bank; too little flowing in would mean lower reserves than are necessary for the bank to meet day-to-day demands for cash. The bank must hold some cash as till money to meet minor irregularities in the flow of cash into and out of the bank, and, in addition, it must hold sufficient reserves to meet larger and perhaps unexpected irregularities in flow. Through custom and experience the banks have found that they may operate, as long as public confidence is maintained, with cash reserves which are a relatively small percentage of their total deposit liabilities. In Canada, for instance, the banks customarily hold cash reserves (notes of and deposits with the Bank of Canada) equal to approximately 10 per cent of their deposit liabilities. The remaining part of their assets is primarily loans and securities, that is, revenue-producing assets.

Having briefly noted that the banking process must be considered in terms of simultaneous flows, and that cash reserves must be maintained to meet irregularities in such flows, we shall now turn to the process of the "creation" of credit. Banks do not act merely as middlemen between depositors and borrowers, do not simply lend out the funds which they receive from depositors. Their function as credit creators or manufacturers of money is of fundamental importance in the present structure of our economy.

Each bank deposit is a debt owed by the bank to the depositor, or owner of a deposit. On the bank's books deposits appear as liabilities owing to various people and institutions. They should be considered as simply a book entry in the bank's accounts and not necessarily, as we shall see, a record of actual cash held for the depositor. Against these liabilities the bank holds various types of assets, chiefly securities and loans to borrowers. The deposit then, is "not something which a bank has, but something which it owes, and is liable to pay its depositor or to someone else, on his demand."[1]

We shall now consider individual transactions which give rise to bank deposits and indicate in particular those transactions which result in "creation of credit." For this analysis, we may distinguish four main types of activity resulting in the increase of a bank's deposits:[2]

(1) *The deposit of legal tender by a customer*

If an individual deposits cash or legal tender (Bank of Canada notes, a cheque on the Bank of Canada, or subsidiary coin) he acquires a bank deposit. As far as the bank is concerned, its liabilities (deposits) have increased, and on the other hand its assets (legal tender) have increased by the same amount. As far as the depositor is concerned, he has merely exchanged one type of money for another; that is, he has given up legal tender and acquired a bank deposit. The money supply of the country remains unchanged by this particular transaction.

(2) *The deposit of a cheque on another bank*

As far as the individual bank is concerned, the deposit of a cheque on another bank will have an effect similar to the deposit of legal tender: the bank's liabilities (deposits) have increased, but at the same time its assets have increased by the same amount in the form of a claim on another bank which may be converted into cash through the clearing house. Obviously, however, while one bank has increased its deposits and its cash, another has suffered decreases of the same amount: viewing the banking system as a whole, there has been *no change in the money supply of the economy.* (If the deposit had been in the form of a cheque drawn on an account with the same bank, the bank would have been unaffected; only a book entry would be required to transfer the deposit from one customer to another.)

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[1] M. Curtis and H. Townsend, *Modern Money* (London, 1937), p. 28.

[2] For an excellent discussion see: J. M. Keynes, *A Treatise on Money* (London, 1930), Vol. I, Chap. 2.

(3) *The granting of a loan by the bank*

When a bank makes a loan to a customer, it can do so simply by crediting his account with the amount of the loan. With this operation, the bank's liabilities have increased by the amount of this new deposit; and its assets have increased by the same amount, in the form of the customer's promise to repay the loan. The effect of the granting of a loan by the bank, and the concomitant increase in the bank's deposit liabilities, is different from the effect of the first two cases above considered. In exchange for a promise to repay *which is not money,* the bank has extended a deposit *which is money,* against which the customer may write cheques or make withdrawals in cash. In fact, money has appeared where it did not exist before: this is the essence of "credit creation."

(4) *The purchase of securities by the bank*

The purchase of a bond by a bank will, as in (3) above, result in the "creation" of money. In this case the bank buys the bond and pays for it by a cheque on itself. This cheque will normally be deposited, and again money appears which did not exist before. The cheque may of course be deposited in the bank buying the security, or in another bank. In the latter case the example is complicated somewhat by the fact that an inter-bank debt arises.

In summary, when a bank makes loans or purchases securities, it creates deposits to an equal amount, and increases thereby the money of the country. These two activities which result in an increase in bank deposits differ from the case (1) where an increase in deposits is offset by the decline in the public's holdings of cash and from the case (2) where the deposit of a cheque on another bank leaves total deposits unchanged.

The banks, then, are capable of increasing the community's supply of money by making loans and buying securities. It is in their interest to do so, inasmuch as loans and securities are revenue-earning assets. Cash reserves are not. However, there are very definite limits to this process of increasing earning assets and increasing deposits. As we have seen above, the bank must always be able to meet the cash claims which arise against it. That is, it must always be able to satify the day-to-day withdrawals in cash by its depositors and to satisfy the claims of other banks which appear through the clearing house. Expansion of deposits must be limited before the point where a bank would be unable to meet such claims, or the bank might be forced into insolvency.

We shall now consider more closely the factors which come into operation to limit the expansion of deposits in the banking system. These may well be considered under conditions where (1) one individual bank is expanding loans, (2) all banks are expanding loans, without central bank participation, (3) all banks are expanding loans, with central bank participation, (4) a general expansion is occurring in an open economy.

(1) *One individual bank expanding loans*

When one individual bank is increasing its loans and/or security holdings while its competitors are content to keep their deposits constant, it very quickly reaches the limits of its power to expand credit. As its deposits grow with the making of loans and the purchase of securities, cheques will be drawn on these new accounts. Since many of these cheques will be drawn in favour of people whose accounts are kept with other banks, the expanding bank will find that its liabilities to other banks rise without a corresponding rise in its claims on other banks. Thus it will lose cash through the clearing house. This will affect adversely the bank's reserve ratio, and such a decrease in the cash reserves cannot continue beyond the critical ratio of cash reserves to deposit liabilities which the banks (by custom or by law) consider as adequate to meet current demands. Consequently, if one bank expands by itself it will soon find that its powers of expansion are limited by the drain of cash through the clearing house, and the consequent decrease in its reserve ratio. One bank in a banking system must therefore keep in step with other banks in the system or it would soon find itself in danger of being unable to meet the drain on its cash reserves.

(2) *All banks in a banking system expanding loans*

However, this limit to expansion would be removed if all of the banks of a country moved together in the expansionary activity of making loans and buying securities. While the cheques drawn on each bank would increase, this would be paralleled by an increase in cheques drawn on other banks which would be deposited with it. Of course, if there is a legal medium reserve ratio, this would still be operative. Although the limit to expansion imposed by the drain of cash through the clearing house is inoperative when all banks in a system are expanding, at equal rates, another type of limiting factor makes itself felt. As the supply of deposit money grows, people may wish to hold more of their growing stocks of money in the form of cash—notes and coins. This will certainly be so if the expansion of deposits is accompanied by an increase in output, incomes and employment and/or by a rise in prices. In this event, as deposits increase people will withdraw cash from the banks and the expansion will have to be limited before this outflow of cash *into the hands of the public decreases the reserve ratios of the* commercial banks below the level considered desirable.

(3) *All banks expanding, with central bank participation*

This limitation, i.e. a drain of cash from the bank reserves into general circulation, may also disappear if the central bank participates in the general expansionary movement. The shortage of cash limiting the expansion of deposits in the banking system could be removed by central bank action to expand the amount of legal tender. This result could most easily be accomplished by open market operations of the central bank, i.e. by the central bank entering the security market and purchasing bonds. The central bank pays for such bonds by a cheque on itself, which the seller of the bond usually deposits in a commercial bank. This gives the commercial bank a claim on the central bank which is converted into a deposit with the central bank or into central bank notes, in either case, the legal tender or cash reserves of the commercial bank are increased and the check to deposit expansion temporarily relieved. The central bank, however, may be limited in its powers of credit expansion by a legally defined minimum reserve ratio.[8] Where there is no legal minimum reserve ratio that the central bank must maintain, or where such reserve requirements have been suspended temporarily, it would seem that there is no limit to the possible expansion of deposits in the banking system. This might be true in a hypothetical isolated economy. But ordinarily one must consider an economy as part of a world economy.

(4) *General expansion in an open economy*

In an open economy the problems of international repercussions following from an expansion of credit such has been outlined above must be considered. The limiting factors differ under (*a*) gold standard conditions and (*b*) "managed" currency conditions.

(*a*) If a country is on the gold standard, the increase of deposits may result in loss of gold and consequently the monetary expansion must be limited before the gold reserves of the country fall below the conventional (and/or legal) ratio, if convertibility of the currency is to be maintained. If the rise in deposits is accompanied by a rise in incomes, imports will probably increase. This tendency may be reinforced by increases in domestic costs and prices, i.e. foreign goods will become cheaper relative to domestically produced goods. Conversely, rising costs and prices will cause the expanding country's exports to decline. Rising imports and falling exports will mean that payments abroad increase, receipts from abroad decrease and in the absence of compensatory capital movements, gold will tend to leave the country to meet the difference. Any outflow of capital brought about by higher incomes or by fear of the country's inability to remain on the gold standard would of course increase this outflow. Thus the determination to remain on the gold standard may mean that a central bank will have to limit the internal expansion of deposits.[4]

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[8] For instance, the Bank of Canada Act, 1934, required that the Bank should maintain reserves of gold coin and bullion (also foreign exchange) equal to not less than 25 per cent of its note and deposit liabilities. In May, 1940, this requirement was temporarily suspended.

(*b*) Similarly, when the country is not on the gold standard, higher incomes and prices mean that imports tend to rise and exports to fall. Under these conditions a fall in the external value of the currency, i.e. depreciation, results. Flights of capital in anticipation of depreciation would tend to accentuate the fall in the value of the currency. Owing to its damaging effects upon business confidence the central bank will usually not wish to encourage indefinite depreciation. This factor alone will constitute a check to the indefinite increase in deposits.

Of course, should all countries be expanding at the same rate the danger of loss of gold or exchange depreciation disappears. However, where there are legal central bank reserve requirements they still limit the expansion. Under certain conditions, however, such as war emergency or severe depressions, these legal requirements may be suspended. Then expansion might proceed unhampered by the usually operative limiting factors. Dangers of exchange depreciation may be removed through the imposition of various types of control, such as foreign exchange controls. Under such conditions the only

[4] While the traditional theory upon which most discussions of the gold standard are based suggests that gold will flow out of the country expanding most rapidly (as indicated above), this is not always the case. The expansion of incomes will mean high profits for business enterprise and for speculators. These factors may attract an inflow of foreign capital offsetting the tendencies to lose gold. An example of this result was seen in the United States during the later 1920's In other words, as long as the prosperous conditions continue, the last limit to a country's expansion is temporarily removed.

limit to monetary expansion is the expressed monetary policy to avoid price inflation.

II

Having considered generally the ways in which credit may be "created" in a banking system, and the various limitations imposed on credit creation, we shall now consider the *process* of credit creation in somewhat greater detail. Three examples will serve to clarify the basic principles:

(1) expansion in a banking system resulting from an initial inflow of cash;

(2) expansion within individual banks and the banking system resulting from an initial inflow of cash, where demand for cash in circulation in the hands of the public is assumed constant;

(3) expansion within individual banks and the banking system *resulting from an initial inflow of cash, where the demand for* cash in circulation in the hands of the public is assumed to increase, as deposit currency increases.

These individual cases will be considered in turn.

(1) *Expansion in a banking system resulting from an initial inflow of cash*

The case may be simply put: assuming a banking system which maintains a 10 per cent cash reserve ratio, what effect will a change in reserves have on the total supply of credit within the banking system? Suppose that the following represents the essentials of the combined balance sheets of all of the banks in a country:

ASSETS		LIABILITIES	
Cash	400	Deposits	4,000
Loans and securities	3,900	Other liabilities and capital	500
Other assets	200		
TOTAL	4,500	TOTAL	4,500

Cash reserves obviously equal 10 per cent of deposits.

Assume, then, that the central bank purchases $50 of securities in the open market.[5] The sellers of the securities deposit their cheques in the commercial banks. The immediate result of this transaction would be that the deposits of the commercial banks would have increased by $50 *and their cash reserves (claims on the central* bank) would also have increased by $50. The summary balance sheet for the banking system would then appear as

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[5] If the central bank had not purchased the securities on the open market, but had purchased them solely from the commercial banks, the final result would be the same, although the initial result would be a decrease in the banks' loans and securities account, and no change in deposits.

ASSETS		LIABILITIES	
Cash	450	Deposits	4,050
Loans and securities	3,900	Other liabilities and capital	500
Other assets	200		
TOTAL	4,550	TOTAL	4,550

An important change has occurred in the cash ratio for the banking system. Since both cash and deposits have risen by the same amount, the cash ratio has increased from 10 per cent to 11.1 per cent. Since we have assumed that the most profitable reserve ratio for the banking system (consistent with safety) is a 10 per cent ratio, the banks are now in a position to increase their profits by making loans and purchasing securities. This they will do until the resulting expansion of deposits decreases their cash reserve ratios to 10 per cent.
The summary balance sheet would then appear:

ASSETS		LIABILITIES	
Cash	450	Deposits	4,500
Loans and securities	4,350	Other liabilities and capital	500
Other assets	200		
TOTAL	5,000	TOTAL	5,000

In summary, the result of the purchase of $50 securities on the open market by the central bank (i.e. an increase in the cash reserves of the commercial banking system) has been to increase bank deposits by $500. Offsetting this, the banks' cash reserves have gone up by $50 and their earning assets (loans and securities) have increased by $450.

(2) *Expansion within individual banks and the banking system resulting from an initial inflow of cash, where demand for cash in circulation in the hands of the public is assumed constant*

At the outset it is assumed (*a*) that there are only two banks A and B of equal size in the system; (*b*) that the banks keep a 10 per cent cash reserve against their deposits; (*c*) that the banks operate in a closed economy. Under these assumptions we must consider the effect of central bank purchases of securities in the open market.

Suppose that the central bank purchases $100 in securities in the open market. As before, the seller presumably will deposit his cheque on the central bank in one of the commercial banks, say Bank A. Bank A thereby has its deposits increased by $100, but it also has its cash reserves increased by $100. This increases its cash reserve ratio above the customary 10 per cent and consequently the bank is in a position to extend credit by increasing its loans or by purchasing securities. We shall assume that there are profitable and acceptable opportunities for extension of loans. If it is assumed that the entire loan will be withdrawn from the bank in the form of cash, or in the form of cheques payable to another bank (Bank B, under our assumption of a two-bank system) then Bank A will be able to make a loan of $90, the remaining $10 having to be kept for Bank A's cash reserves. This first step and the succeeding steps may be developed in summary semi-tabular form·

	Increase in total deposits of Banks A & B	Increase in loans of Banks A & B	Increase in cash reserves of Banks A & B
1. Bank A receives $100 and extends loans of $90 which are withdrawn by borrowers	$ 100	$ 90	$ 10
2. Of the $90, $45 is deposited in Bank A and $45 in Bank B. Against this each keeps $4.50 reserve against deposit liabilities and lends the remainder	90	81	9
3. Of the $81, $40 50 is deposited in Bank A and $40 50 in Bank B. Against this each bank keeps $4 05 reserve against deposit liabilities and lends the remainder	81	72.90	8.10
etc.	*etc.*	*etc.*	*etc.*
Final position	$1000	$900.00	$100.00

Thus it is obvious for the individual bank that, as it receives an increase in its cash reserves, it may increase its loans (or purchase securities), but only by an amount less than the deposit of cash—the amount being determined by the necessary cash reserve ratio. However, when there is an increase in cash reserves of the banking system as a whole, the resultant increase in deposits will be manifold. In the example above, the increase in deposits in the banking system will be ten-fold.

(3) *Expansion within individual banks and the banking system resulting from an initial inflow of cash, where the demand for cash in circulation in the hands of the public is assumed to increase as deposit currency increases*

In considering this case, the same assumptions will be kept, (*a*) that there are only two banks, A and B, of equal size;

(*b*) that the banks keep 10 per cent cash reserve against deposits,
(*c*) *that the banks operate in a closed economy; and, in addition,*
(*d*) that the public keeps cash in circulation equal to 10 per cent of its deposits.

Under these conditions, again suppose that the central bank engages *in open market purchases of securities of* $100 *and that the seller* deposits his cheque on the central bank in Bank A.

The *steps of the analysis of credit expansion may again be presented* in the following summary table:

	Increase in total deposits of Banks A & B	Increase in loans of Banks A & B	Increase in cash reserves of Banks A & B
1. Bank A receives *$100* and extends loans of $90 which are withdrawn by borrowers.	$100	$90	$10
2. $10 stays in circulation, $40 is deposited in Bank A and $40 *in Bank B: each keeps $4 re*serve against this deposit and lends the remainder.	80	72	8
3 $8 stays in circulation, $32 is deposited in each bank: both keep 10 *per cent* reserve *and* lend the remainder	64	57	6 40
etc.	*etc.*	*etc.*	*etc.*
Final position	$500	$450	$50

In this case, $50 remains in circulation in the hands of the public. As in the cases considered above, the addition to the cash reserves of the commercial banks normally results in an expansion of loans (or investments) and deposits. The extent of this expansion in the banking system, however, is seen to depend upon (*a*) the reserve proportion maintained by the banks, and(*b*) the behaviour of the public regarding the use of cash.

APPENDIX A

CANADIAN CHARTERED BANKS

Daily Average Data
(millions of dollars)

Year	Cash in Canada[1]	Canadian Deposits[2]	Percent of Cash to Canadian Deposits	Total Active Note Circulation[3]
1926	192	1,958	9.8	195
1929	191	2,293	8.3	205
1932	172	1,955	8.8	158
1939	269	2,582	10.4	216
1940	289	2,722	10.6	287
1941	313	2,975	10.5	386
1942	342	3,263	10.5	523
1943	423	3,895	10.9	688
1944	538	4,575	11.8	835
1945	603	5,284	11.4	951
1946	672	5,916	11.4	992

Source: Bank of Canada Statistical Summary—December 1946-January 1947, p. 4.

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[1] Until March 1935, Gold and Coin in Canada, Dominion Notes and "Free" Central Gold Reserve Deposits, after that date Bank of Canada Notes and Deposits.

[2] Figures given are annual averages of estimated month-end Canadian deposits in 1926-35 and monthly average Canadian deposits in 1936 and after.

[3] Bank of Canada notes in public circulation and chartered bank note circulation, the latter being since September 1944, an approximate figure only

CHAPTER II

History of Canadian Banking*

C. A. CURTIS

THE history and structure of the Canadian banking system can best be understood and interpreted in terms of Adam Shortt's three main evolutionary influences.[1] These influences were (1) the actual experience of operating under Canadian conditions, (2) the experience of the neighbouring states, and (3) in the earlier period, the views of the British Treasury as expressed through the colonial office in various ways—minutes, memoranda, circulars, letters, and the disallowance of bills. With these factors in view, the development of the Canadian banking system becomes a more easily understood social process, and the various inovations and retreats merely reflect the temporary dominance of some influence. Because of its close relationships with the United States and Great Britain, Canada has shown a great deal of ingenuity in selecting from the legislation of both countries, and this process of combining cannot be seen better than in the field of banking.

The Peace of Paris in 1783 left only the northern half of the continent under British control, and from that date until Confedera- the British provinces in North America were separate, independent colonies, each in direct communication with the British government. Thus the early history of banking in Canada is the combined history of all the provinces, although the greater economic importance of the central provinces gave them much greater weight in the ultimate development of the banking system. Accordingly, a brief history of the early banking developments in each of the provinces will be set out.

One of the earliest references to banks in the central area—Upper and Lower Canada, later the United Province, and now Ontario and

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*Permission to reprint this article from the *Encyclopedia of Canada* has been kindly given by the editor and publisher of the *Encyclopedia* and by the author, Professor C. A. Curtis of Queen's University, who has revised the article and brought it up to date.

[1] See Victor Ross, *History of the Canadian Bank of Commerce* (Toronto: Oxford University Press, 1922) vol. 2, chap. 8, p. 390. Chapter 8 of this book was written by Adam Shortt, and gives a good history of the Canadian banking system.

Quebec—was in 1792, when some gentlemen of Montreal decided to establish a bank under the name of the Canada Banking Company. Only a private bank of deposit, however, resulted from this effort. In 1808, another attempt at establishing a bank was made in the city of Quebec, when a charter was asked from the legislature, but was not granted. During the War of 1812, army bills—a form of hand-to-hand promissory notes—were issued by the government, but by *1816* the amount outstanding was very small, and in 1820 the office of issue was closed. The elimination of the army bills revived *the matter of more currency—the point from which most early banks* started; and in 1817 the Bank of Montreal was organized and started under articles of association. A charter was asked for in 1818, but was not finally approved until 1822.

The Bank of Montreal is generally regarded as the first bank of discount, deposit, and issue to be established in what is now the Dominion of Canada. In 1818, the Quebec Bank was started, as well as an institution called the Bank of Canada, which should not be confused with a later bank of the same name or with the present central bank. These two banks applied for charters and received them about the same time as the Bank of Montreal. Then, as now, each bank required a separate Act of incorporation, but then there was no general banking code, and the charter was the source of the bank's legal capacities.

As the early charters indicate the path on which the Canadian banking system was starting, their main points may be set out briefly. All the charters were alike and, therefore, the Bank of Montreal charter may be taken as typical. A study of this charter shows clearly that it was taken directly from that of the first Bank of the United States, which had been planned by Alexander Hamilton, the first secretary of the Treasury of the United States. Thus the Canadian banking system is a direct descendant—the only surviving one— of the first Bank of the United States. Here is one line of influence at a critical point in the development of the system. The Bank of Montreal charter had the following provisions:

1. The directors were to be British subjects, and under certain conditions were individually and jointly liable for some actions of the bank.
2. Shares were to be of 50 pounds denomination each, with graduated voting so that no shareholder had more than 20 votes.
3. The corporation was empowered to sue and be sued in the corporate name; to issue bank notes payable on demand in legal coin; to receive deposits and to deal in bills of exchange, to

discount notes, to deal in gold and silver bullion, and to sell stock pledged, but not redeemed; to have and hold mortgages on real property for debts contracted to it in the ordinary course of its dealings, but not to lend on mortgages or to purchase them; to hold real estate to the value of 1,000 pounds annually and no more.

4. An annual return was to be made to the shareholders.

There were other provisions, but these are the more important Although the origins of the Canadian banking system are thus evident, the tremendous difference between the provisions of the bank charter of 1822 and that of 1934 indicates the great distance travelled in the century of development.

In Upper Canada the first bank charter was granted in 1819 to the Bank of Kingston, and the second in 1821 to the Bank of Upper Canada. The latter is of peculiar interest because one-quarter of the capital was subscribed by the government, and also because the bank was largely under the control of the Family Compact. Through the collapse of the private Bank of Upper Canada at Kingston and the inability of the Bank of Kingston to get going within the period of its charter, the Bank of Upper Canada obtained a monopoly of banking within the province and hoped to keep it. With its control of the Legislative Council it could have thwarted all efforts to obtain new charters, but a financial crisis in 1821-2 made it necessary for the bank to apply to the legislature for a reduction in its capital and for other considerations. This gave the Assembly an opportunity to protest the monopoly, but it was not until 1832, however, that another charter—that of the Commercial Bank of the Midland District—was granted to the financial interests of Kingston whose first charter had lapsed. The Bank of Upper Canada had its charter extended in the same year. In 1830 the British government had issued instructions to the colonies as to what was desirable in bank charters, but these instructions were not followed.

Some dispute arose over these Acts, in which the British government threatened to disallow them. Strong representations were made from Canada, however, and the Acts were finally allowed. But the British government stated that they would allow no further Acts (a resolution not strictly adhered to), unless they conformed to the set of instructions sent out in 1833, which contained the following provisions:

1. Suspension of cash payments for sixty days to result in the forfeiture of the charter;

2. Notes issued at any branch to be redeemable at the head office but not at other branches;
3. One-half the capital to be paid in immediately;
4. Loans to directors or officers (or on paper bearing their names) to be limited to one-third of the total advances;
5. No bank to hold its own stock or to lend on it;
6. A weekly statement of the bank's affairs to be made and a a semi-annual statement to be sent out to the legislature;
7. Shareholders to be liable for the amount of their shares—the "double liability";
8. Compliance with certain conditions in making loans—in general, to see that the bank remained a creditor and did not become a partner.

These provisions have been set out in some detail to show the influence of the British government on Canadian banking development. The third, fourth, and eighth provisions were already in operation, and the first practically so; the others were gradually inserted in the charters after this time, although it was not until after 1841 that all were included. Thus, while there was a local tendency towards better banking laws, the influence of the British government hastened and secured these sound developments.

In both Upper and Lower Canada many new charters were granted in the period before the union of these provinces, and a study of these charters shows how the Canadian banking structure developed as experience showed what was desirable and what was not. An interesting development occurred in 1834, when an unchartered bank in Upper Canada started paying interest on deposits, and this practice was soon followed by the other banks.

In 1841 the Bank of Montreal charter was amended, and a change was made in the form of the monthly return to the government. This return was greatly amplified and remained practically unchanged until Confederation. Another point in the amended charter limited the circulation of the bank to its paid-up capital. Even at this date the circulation of the banks was approximately half of their total debts to the public, while at the present time it is only about one-twentieth; this shows the importance of this banking function in the early period.

The union of the provinces had very definite effects upon the banking structure, for banking legislation became broader and gave recognition to the interprovincial commercial relationships which were already in existence. It also had important effects through the political side. Lord Sydenham, who was governor at this time, had very definite views on currency and banking, and was very closely allied with the "currency school" group in England. He desired to see these views put into effect in Canada, and in 1841 a bill was introduced which was to establish one bank of issue, under government control; the other banks were to lose the right of note issue and obtain their notes from the government bank by depositing public securities. The bank was to perform no banking functions other than note issue. The plan was supported by some because of the exigencies of public finance, and the proposed bank plan promised a possible source of funds for the public works of the government. Francis Hincks, who was chairman of the select committee of the Legislative Assembly on banking and currency which considered the plan, was strongly in favour and despite many strong reasons against the scheme it was reported on favourably by the committee. The Assembly, however, owing to the influence of the banks and to political divisions, refused to pass the bill, and the plan was killed. Sydenham's death occurred shortly afterwards, and the bill was not revived.

The final report of the committee was in favour of adopting some uniform banking system in the province, and it made a series of recommendations—most of which had been suggested in a circular from the British government in 1840—which, it was deemed advisable, should be followed in granting charters in the future. These recommendations cannot be given here, but they provided the basis for practically all charters granted from this date to Confederation, and indeed beyond that time. They must, in fact, have been very much in mind in the drafting of the first effective Bank Act of the Dominion, for Hincks, the chairman of the committee of 1841, was in 1871 the minister of Finance responsible for this legislation.

The next important move was in 1850, when the free Banking Act was passed. The provisions of this Act were taken mainly from the United States, where they later served as the basis of the national banking system. For the immediate purpose the main provisions of the Act were the secured note issue—each bank depositing public securities and receiving notes in exchange—and the introduction of unit banking. Despite the sympathy of the government, again because of reasons of public finance, the plan was not effective, in part owing to defects in the Act and in part to the opposition of the chartered banks. Only a few small banks came under the Act, and it was soon demonstrated to be of little significance, but it was not completely repealed until 1880.

This Act, however, did have three points of permanent interest.

In the first place, it was the first general Act which applied to all banks, a point to be accepted later in the Canadian system. Secondly, it associated the government for the first time with the note issue, another feature which was later to become a part of the Canadian system. Thirdly, it made bank notes a first charge on the assets, which was also to be accepted later.

In 1854, the Bank of Montreal charter was amended, and the new provisions were made to extend to other banks also—a move towards a general Act. One of the changes required a monthly return to the government as under the Free Banking Act. It may be noted in passing that, in 1858, another Bank of Canada was chartered, but its name was later changed to the Canadian Bank of Commerce.

In 1859, a very important Act from the viewpoint of banking practice was passed. This had to do with what are now the "pledge" sections (86 to 88) of the Bank Act. In brief, the legal position of warehouse receipts, etc., and bills of lading had not been satisfactory to lenders on such security, and the new Act provided that these documents could now be taken as a pledge for a loan at the time the loan was made, and the creditor would in effect have legal title to the goods in case of default. To show the way the law developed (this is a case of local influence) it was at first intended that the law should apply to the warehouse, carriers, etc. as bailees; that is, they had to be third parties, and they could not give receipts for their own goods so held. Then the law was extended so that a warehouse could give a receipt for goods owned by a borrower in the warehouse, thus developing the principle of a borrower remaining in possession of the security for a loan. Then later the principle was extended so that certain specified groups, such as farmers, lumbermen, and fabricators of raw material, could give as security goods in their own possession. It became in effect a sort of chattel mortgage and allowed the banks to make loans which they otherwise would not have made. The original Act did not give the banks alone permission to act under it, but extended its provisions to individuals; only later did it become a part of the Bank Act. Originally, it was an attempt to meet a need which was felt by the whole community, and was not a special privilege to the banks.

Although the province of Nova Scotia had kept provincial notes in circulation from the War of 1812 to Confederation, similar plans had never been accepted in the central provinces. In 1866, however, the proponents of a government currency were very successful in getting enacted the Provincial Notes Act of that year. A. T. Galt (q.v.), the minister of Finance, admitted that the primary financial need of the government was the deciding factor. Under the Act not more than $8,000,00 of provincial notes, redeemable in specie on demand in Montreal or Toronto, were to be issued; a reserve of 20 per cent was to be held for the issue under $5,000,000, and 25 per cent for the excess over this amount. The Act, however, did not stop at being a simple government note issue, but made provisions for and offered inducements to the chartered banks to surrender voluntarily their note issues. Thus the scheme came back to something like the earlier proposals. The Bank of Montreal, under E. H. King, because of its peculiar relationships with the government, accepted the plan and retired its notes; this was profitable for it, but not for the other banks, which did not accept the plan. The Act was barely in operation when Confederation took place, and these notes, with the other provincial notes, were turned into the Dominion note issue, which became a simple government issue and did not actively attempt to supplant the issue of the chartered banks.

Although there were changes made in the bank charters from 1860 to Confederation none was of great significance, and the other provinces may be considered next. The Bank of New Brunswick received its charter in 1820 and was the first bank in the Maritimes. The provisions of its charter were very similar to those of central Canada, where there were minor differences the New Brunswick bank tended to follow New England models. In 1834 the Central Bank of New Brunswick was incorporated, and its charter embodied the British government's proposals of 1830 and 1833. Other charters were granted from time to time, and in general there was little variation from the central Canada pattern.

Although a bank had been mooted in Nova Scotia for many years, the Bank of Nova Scotia, incorporated in 1832, was the first chartered bank in that province. This bank was also the first in British Noth America to have the double liability clause in its charter. Other charters were granted in Nova Scotia, and all were similar to those in New Brunswick and Central Canada.

One of the functions given to the new federal government by the British North America Act was control of banking and currency. Thus one of the first duties of the newly-established parliament was to meet this new banking situation. This was done by a temporary Act, which was to expire in 1870. By it the provincial charters were made, in effect, Dominion charters, and any bank could now opperate in any part or all parts of the territory of the new Dominion; the Maritime banks were made subject to the same taxation as those in the central provinces. As the other provinces—Manitoba, British Columbia, and Prince Edward Island—came into the federation, the scope of the Dominion Bank Act was extended to these territories, and such banks as existed came under it. The Bank of British Columbia operated under royal charter until taken over in 1901 by the Canadian Bank of Commerce. Other provisions in the Act simply re-enacted the province of Canada's general legislation affecting banks, including the law regarding the taking of security under warehouse receipts, etc. In 1869, a statute was passed extending, until 1870, some charters which were about to expire. These Acts provided time for more comprehensive legislation to be considered. There were at Confederation 18 banks operating under Province of Canada charters, 4 under New Brunswick charters, and 5 under Nova Scotia. In addition, there was the Bank of British America operating under royal charter. Thus there were 28 banks in all to be affected by any new enactments. There were in addition 3 unused charters in the province of Canada, 5 in New Brunswick, and 2 in Nova Scotia, all capable of being used.

The discussion of banking matters had been greatly stimulated by the failure in 1866 of the Bank of Upper Canada and in 1867 of the Commercial Bank, and thus the new banking law was awaited with great interest. E H. King, the manager of the Bank of Montreal, had come out in favour of a bond-secured currency, and when Sir John Rose, the minister of Finance, made his resolutions known in the Canadian House of Commons, it was clear that he was in agreement with this view and that his proposed Act would be very similar to the recently-adopted National Banking Act in the United States. In 1867-8, a Senate committee had approved of the American plan, and in 1868-9 a House committee was struck to study the concrete proposals of Sir John Rose After some debate had taken place upon the proposals, it became clear that the government would have difficulty in proceeding with them. The opposition objected vigorously to the plan, and several government supporters also took exception to it. Later, it became evident that the cabinet was not unanimous either. Before the time came to proceed with the legislation Sir John Rose announced its withdrawl, but he indicated that it would be re-introduced at the next session. He resigned, however, from the cabinet a few months later, and the measure was not revived.

The merits of the controversy cannot be detailed here, but the opinion might be advanced that the decision to adhere to the existing system was a sound one. The government had some interest in a bond-secured currency, because it assisted, so it was believed, the market for government securities. The Bank of Montreal was in favour of the plan, because it was the government bank, had already retired its circulation, and was in a position to gain from the new system. The other banks, however, were strongly opposed to losing the right of note issue, which they felt was vital to their profitable operation. In view of the economic structure of Canada at that time, it was doubtless of genuine advantage to the country to have the banks in such a position that they could create a note liability with the same ease as a deposit liability. More notes were used then, relatively, than cheques. Thus the decision, in 1869 and 1870, to leave the right of issue was regarded as sound.

Sir Francis Hincks succeeded Sir John Rose as minister of Finance, and in 1870 he introduced the resolutions covering his new Act. Despite his early sympathy with Sydenham's bank of issue project he threw over the whole idea of a bond-secured currency, reversed the government's policy, and presented a Bank Act which was, in effect, the codification, with such changes as time had shown necessary, of the then existing bank charters. He was at first in favour of a fixed minimum reserve ratio for the banks, but this too was dropped. The Act passed at this session required the banks to be incorporated by letters patent rather than by parliamentary charters, which had been the practice up to this time.

For some reason or other, the banks were strongly in favour of incorporation by parliamentary charter, and only one bank actually used the Act of 1870. Because of this, Sir Francis Hincks, in 1871, presented another measure which provided for parliamentary charters and dropped the letters patent procedure. This statute was practically the same as that of 1870, but there was one slight change with respect to capital requirements. As this was the first general Bank Act of the Dominion under which banks actually operated, its main provisions may be set out briefly.

The capital required was large: $500,000 was to be subscribed, of which $100,000 was to be paid during the first year and another $100,000 during the second year. The note issue was limited to the amount of the paid-up capital; the denomination of the notes was to be not less than $4, and notes were redeemable at certain designated places, but not at all branches. Shares were subject to the double liability, and suspension of payment by the bank for 90 days forfeited the charter. Lending on the bank's stock was prohibited, and provision was made for limiting dividend payments until a certain reserve fund had been accumulated. The banks were required to hold one-third of their cash reserve in Dominion notes—another case of the ever-present needs of the government. The return to the government was amplified greatly, and the charters of the banks were extended until 1881. Thus began the practice of having a definite and equal period for all charters, which in turn led to the "decennial revision" of the Bank Act.

A few changes, mostly of minor significance, were made in the Bank Act between 1871 and 1880. One change of more importance was made in 1879 when all lending on bank stock was prohibited, for it had become evident for some time that such loans were developing serious abuses. From Confederation until 1873 or 1874, the country had been quite prosperous, but from then to 1880 it suffered from a very severe depression which had serious repercussions on the banks. It was estimated that some $12,000,000 was lost in this period by shareholders in Canadian banks. These conditions, of course, made themselves felt during the discussion which preceded and attended the revision of the Bank Act in 1880; but, even so, there were not many significant changes made in the Act at that time. There was some further discussion on reforms along American lines, but no legislative action resulted.

Sir Leonard Tilley was the minister of Finance at this time, and was in charge of the new Act. The main change was that, in case of failure, bank notes were made a first lien on a bank's assets —an innovation suggested by the bankers themsleves. The law dealing with loans on warehouse receipts was further developed, the required holding of Dominion notes was extended to 40 per cent of the bank's cash reserves, notes were to be in denominations of $5 (the minimum) and multiples of this sum, and the form of the monthly return was elaborated. Proposals for government inspection of the banks were successfully opposed by the bankers and were not to be adopted until more than half a century later.

The period from 1880 to 1890 saw the further economic development of the country and also some very unfortunate bank failures. Both these influences affected the revision of 1890, which was more extensive than that of 1880. Sir George Foster was the minister of Finance in charge of the 1890 revision, and he had some definite views on certain aspects of banking. Among other things he thought (1) that bank notes ought to pass at par in all parts of the country;

(2) that some further security should be made for the notes of failed banks; (3) that the authorized note issue (the paid-up capital) was too high; (4) that a specified minimum cash reserve should be specified, and (5) that the conditions governing the starting of new banks should be more stringent. The bankers met with the minister, and objected in particular to 3 and 4, but he adhered to his views on 4. The bankers then asked for an interview with the whole cabinet, and managed to persuade it not to proceed with the specified minimum reserve requirement.

After much discussion, in which the Bank of Montreal made clear its desire to have a secured note issue, there was a fairly satisfactory combining of views. The notes of failed banks were made to bear 6 per cent interest from the date of the suspension of the bank until their redemption was announced. The banks had to designate an office of redemption for notes in each province; thus insuring the circulation of notes at par. A "circulation redemption fund" for the redemption of the notes of failed banks was set up; all banks were required to subscribe 5 per cent of their circulation to this fund, which was placed under government supervision, and they were allowed 3 per cent interest on such deposits. Further calls of not more than 1 per cent per annum could be made. In effect this plan made the banks mutual guarantors of their note issues and was very similar to the scheme developed much earlier in the state of New York. The Dominion government was given second lien on the assets of failed banks, and provincial governments a third lien. The capital provisions were made larger and more severe for new banks. The "pledge" sections were completely overhauled and the procedure under them simplified. One interesting change was a reversion to the early principle that in lending on warehouse receipt, etc., the bailee must be a third party, but the essential principle of the sections was not altered. Many other changes were made, and many other proposals rejected. All in all, this was the most severe overhauling that the basic Act of 1871 had yet received.

Very few changes were made in the Act at the revision of 1900, when W. S. Fielding was minister of Finance. The most important gave the Canadian Bankers' Association, which had been organized in 1892, statutory recognition by conferring on it certain duties with respect to the supervision of failed banks and the handling of bank notes. The interest rate on the notes of suspended banks was reduced to 5 per cent, the scope of the "pledge" sections was extended, and the form of the monthly return was altered to distinguish between the internal and external business of the banks. This change recognized the growing foreign business of the Canadian banks. In 1908, the Act was amended to allow the banks, during October to January, to issue notes in excess of their paid-up capital to the amount of 15 per cent of their combined capital and reserve fund. Such "excess issue" was to be taxed at the rate of 5 per cent. The economic expansion of the country had expanded the note issue, so that it was pressing against the statutory limit—the paid-up capital.

Although the bank charters expired in 1911, the imminence of a general election caused the revision to be postponed until 1912. The elections resulted in a new government, and the revision was again postponed until 1913. One or two changes of importance were made at this time. One change provided for a more rigorous shareholders' audit which, it was hoped, would give further protection to the public. Another new section set up the "central gold reserves", which was to be under the supervision of four trustees—one appointed by the minister of Finance and three by the Bankers' Association—and which was to provide the banks with a means for issuing notes over the statutory limit by depositing gold or Dominion notes. The banks could issue their own notes dollar for dollar of such deposits. This device was used by the banks to the almost complete avoidance of the taxed "excess issue," but it ended the much vaunted elasticity of the note issue, for it made it dependent upon the stock of legal money.

Some changes were made consequent on World War I, but most of them were of minor interest. One Act, however, was of great significance to the banks, although it was not part of the Bank Act. This was the Finance Act, passed at the outbreak of war, as a temporary measure, but made permanent in 1923 and kept in effect until the establishment of the central bank. It gave the department of Finance, among other things, power to advance Dominion notes (cash reserves) to the banks upon the pledge of satisfactory securities. The importance of this Act was that it set up a rudimentary central bank which altered completely the credit control of the monetary system. Previously, the chartered banks extended or limited credit in light of their cash reserves, which could be increased only from without Canada. After the passing of the Finance Act, they operated in the same conventional way, but cash reserves could be increased within Canada by borrowing cash (Dominion notes) from the department of Finance. This made it the apparent ultimate seat of credit control. This transformation was not appreciated at the time, for the country was on an inconvertible paper standard. But after the War, when Canada returned to the gold standard, it did not take very long for the change to show itself, although even then its full significance was not appreciated.

The next important revision of the Bank Act took place in 1923, when Fielding was again minister of Finance. He is the only minister who was responsible for more than one revision of the Act. The provisions respecting the shareholders' audit were further strengthened. A good deal of criticism had been directed at the "pledge" sections of the Act, because the banks' prior lien was a secret one, and provision was now made that when security was taken under these sections of the Act it had to be registered in the office of the assistant receiver-general for that province. Other changes were also made.

As a result of the Home Bank failure in 1923, which demonstrated the inadequacy of the existing law respecting audits, the Act was amended in 1924 to provide for government inspection of the banks, which was one of the most important changes of this century, and which had been suggested fifty years earlier.

The next revision of the Bank Act took place in 1934. Many changes were made in the Act, but none was of major significance. Because of the concurrent establishment of a central bank, certain changes had to be made in the Bank Act to bring it into conformity. Provision was made for the gradual reduction of the note issue until, in 1945, it was but 25 per cent of the paid-up capital. By 1950 the chartered bank note issue will practically be extinguished. Thus we record the passing of a banking function which has occupied a large place in the development of the Canadian banking system, and which was the source of much legislation. Another provision in 1934 allowed the double liability of the shareholders to be diminished proportionally with the reduction in the note issue.

The last revision of the Bank Act took place in 1944. Many changes were made at this time, but few of them warrant mention here. The provisions covering the note issue were again changed so that the chartered bank-note issue will be eliminated by 1950 or even sooner. The par value of chartered bank shares was reduced from $100 to $10, presumably in order to get a wider distribution. The maximum interest or discount rate which the banks could charge was reduced from 7 to 6 per cent. The "pledge" sections of the Act were improved by simplifying the machinery for such loans;

generally speaking, the whole extent and scope of bank loans to agriculture was extended substantially. Indeed, the new provisions of the Bank Act (and the Farm Improvement Loans Act) permit the bank to lend not only for the ordinary process of farming, but for the purchase of equipment, of electrical installation and for the erection of buildings, including housing. These are some of the more important matters covered in the revision of 1944.

Early in 1929 it became evident from the action of the foreign exchange rates that there was not an unhampered export of gold from Canada and that the gold standard, which had been re-established on July 1, 1926, was not being maintained. An analysis of this situation leads to the conclusion that operations under the Finance Act were responsible, and this Act had passed its usefulness, and that a central bank was needed. From this time on the discussion of a central bank grew in volume and importance—largely the result of current depression, it may be ventured—until during the parliamentary session of 1932-3 the government announced its intention of appointing a royal commission to investigate the problem. The commission consisted of Lord Macmillan, an eminent British jurist who had been the chairman of the famous British Macmillan Commission, Sir Charles Addis, a British international banker of repute, Sir Thomas White, Canadian minister of Finance during the War, J. E. Brownlee, then prime minister of Alberta, and Beaudry Leman, the general manager of the Banque Canadienne Nationale.

The commission began work in the summer of 1933, crossed Canada and took evidence in all parts, heard bankers, conferred with the provinces, and received briefs from various interests. Its report, which was made public in November, recommended by three to two the establishment of a central bank, Sir Thomas White and Beaudry Leman being the minority. This was, in effect, the only major recommendation made. In an appendix to the report proper, some "Suggestions" (using the word in the title) on the form of the bank were made. These included private ownership and control, sole right of issue, and many other points which cannot be enumerated here. These "suggestions" are not recommended specifically by anyone, and it is not clear that they were supported by a majority of the commission, and it is therefore a matter of regret that one of the most important parts of the document should be placed in such an ambiguous position.

As the Canadian prime minister had indicated even before the report was made public that he was in favour of a central bank, there was little doubt that the recommendation would be accepted. Upon publication of the report, the government so announced, and indicated that legislation to this end would be introduced. When the bill was brought into the House of Commons it was clear that it was based on the "suggestions" in the appendix. The main features of the Act provide that the shares of the bank shall be owned by private individuals, who elect the directors, who in turn appoint the managing officers, subject to the approval of the government. (The first set of officers, however, were appointed directly by the government.) The Central Bank must keep in gold a reserve equal to 25 per cent of its liabilities, and it has the usual powers given to a central bank. It is to have the right of note issue, and the chartered banks are to retire their issues. It is to act as the government's banker, and manage the public debt. The commercial banks are to keep with it a minimum reserve, in the form of central bank notes, or a deposit, equal to 5 per cent of their liabilities to the public of Canada. The bank took over the government note issue and the gold held against it, and the discrepancy between these two was made up by the government with 3 per cent bonds. These, in brief, are the main provisions of the Act, which was passed after some opposition on detail and on the form of ownership. The Opposition groups in the House advocated public ownership of the bank, but this view did not prevail. The deputy minister of Finance, however is an *ex-officio* member of the board of directors.

Immediately after the Act was passed, the organization of the bank was begun. Mr. G. F. Towers of the Royal Bank was appointed governor, and Mr. J. A. C. Osborne of the Bank of England was selected as deputy governor for the initial period. After making the contribution of his experience in central banking Mr. Osborne returned to England, and was succeeded by Mr. D. G. Gordon. Mr. L. P. Saint-Amour of the Banque Canadienne Nationale was appointed assistant deputy governor. The share capital of $5,000,000 was oversubscribed by the public, and under the informal, but effective, leadership of the Canadian Chamber of Commerce, the share-holders selected a geographically diversified group of directors. On March 11, 1935, the Bank of Canada opened its doors for business, thus ushering in a new era in Canadian banking.

In 1936 the government (the opposition of 1934) decided to insist on its position of public ownership, and somewhat later arrangements were made to buy out shareholders and take over the ownership of the bank. This was done, and the Bank of Canada is now owned by the government.

From the time it began business, to the outbreak of World War II, the Bank of Canada was busy getting its various functions organized and running smoothly. In addition to acting as a central bank for the chartered banks and providing banking services for the government, it made important contributions in various other fields —the study of statistical and financial data and the providing of personnel for such things as the secretariat of the Sirois Commission. It can be fairly said that the Bank of Canada has become a most important and influential institution in Ottawa, and has been of great assistance to the banks and government in more than banking matters.

The advent of the war made necessary some control of the foreign exchange market, and so the Foreign Exchange Control Board was established. This Board was distinct from the Bank of Canada and took over from it all its foreign assets—currencies, foreign deposits, etc. At the same time the governor of the Bank was the chairman of the Board, which operated in close association with the Bank and the Department of Finance.

The Board exercised control over all foreign exchange transactions, but used the chartered banks as its agents. Its jurisdiction included not only current transfers but capital transfers. And during the war its regulations have been of utmost significance to importers, exporters, and the Canadian financial markets. It set the rates of exchange for buying and selling foreign currencies and determined for what purposes transfers could be made. This control, which was carried on under the authority of the War Measures Act is still in force, and may never be completely eliminated. Indeed, some machinery of this character will probably be maintained, if only to implement many international currency agreements to which Canada may be a party.

It may be ventured that, once the Finance Act became part of the Canadian banking structure, it was just a matter of time until a full-fledged central bank should be established.

The general eulogistic view of the Canadian banking system has been greatly distorted by the common practice of comparing and contrasting it with that of the United States. If, for example, the Canadian system were compared with the British system, which is not so well known in Canada, a less biased view of it might exist. The proximity of the United States, of course, accounts for this condition. The two features which attract most attention on this continent are branch banking and bank failures; these two may be discussed first.

As branch banking is the common form of banking in practically all civilized nations of the world and unit banking rare, it is the American system which is unique. Without analysing in detail the workings of the branch system, it may be asserted that in general it is the more efficient form of banking—economically speaking. The fear which the American bankers have of its introduction is some evidence of this. But branch banking means few banks and large banks—concentration of banking resources in a few hands. This is the aspect of branch banking which is disliked in the United States and which is avoided—to some extent—by unit banking. It may be that the price paid is too high, but the decision to pay it is not an irrational one.

Because of the lack of loan diversification, a unit system is almost bound—even with equally good management—to have more bank failures. The United States has accepted this as the price, and in the past—though less so now—an American bank failure was just a bankruptcy, more painful than usual, but still an accepted economic process not calling for government aid. Such was the attitude in Canada in early days. Until 1866 there had not been a serious bank failure in Canada; from Confederation until 1914 there were approximately 24 failures, some quite important. Although some banks sustained losses and sold out, there has been only one bank failure since 1914—that of the Home Bank, in 1923. But in this one case the government made a compassionate allowance to the depositors. With a few large banks a failure is no longer a casual economic process; it becomes a nation-wide calamity, which no government can permit. It is doubtful if any Canadian bank would be allowed to fail, even though public funds were needed to clear its liabilities. Under such conditions bank failures in Canada may be dismissed from further serious consideration, and there is little point in making comparisons with other systems. It may be simply accepted that a peculiar condition of affairs has developed in Canada which seems to make for the safety of the depositor's funds.

The requirements of a return or statement of affairs from the banks has always been one of the distinctive aspects of the Canadian system, even in early days. As a result Canada has a body of banking statistics probably unequalled anywhere. The first charters required merely annual returns, but after the union of the Canadas this was soon changed to semi-annual returns. In 1851 the "Free Banks" were required to make monthly returns, and in 1856 this requirement was extended to all banks in the United Province. The same provisions were maintained after Confederation, so that the Dominion of Canada has monthly banking statistics for the whole period of its existence. From the first all such returns had to be published in some public document. The Maritime provinces never required more than semi-annual returns. The purpose of such returns was, of course, to allow the public to judge the position of the bank. This is still true, but as the body of data grows its value is even greater as a basis for the study of the economic history of Canada.

It soon became evident, however, that bank returns alone were not sufficient protection to the public, and that some provision for the inspection or audit of the banks was necessary. For many years it was maintained that an annual "shareholders' audit"—that is by outside auditors—was ample, and that the branch system made impossible the type of government inspection which existed in the United States. The failure of the Home Bank, in 1923, made a public outcry for some form of government inspection irresistible, and the *government passed an amendment to this effect. By it there is an* inspector-general of banks, who personally—he has no staff of inspectors—inspects the banks at irregular intervals and sees that their position is kept sound. Such inspection takes place only at the head office and the main branches; but this is deemed sufficient, for nearly all the bank failures in Canada have been "head office" failures—that is, as a result of actions taken there. Although the idea was opposed for fifty years after it was first seriously advanced, it is now a generally accepted and commended feature of the Canadian system.

Canadian banks are regarded as commercial banks, and their ordinary business is that of making short-time loans for commercial and other business purposes. They also make loans to brokers and financial houses—call loans; and they themselves are very heavy holders of short-term first-grade bonds. Thus they are an important factor in the investment market. It is sometimes felt that they do not give enough assistance to agriculture, but the banks must make short-term loans and do not consistently meet the peculiar requirements of agriculture for longer loans.

The three or four largest Canadian banks have developed a considerable foreign business and have branches in foreign countries, mainly in the West Indies. This has come about in part through the commercial relationships established there, and partly because the nature of the Canadian economy in early days—the very great importance of the import and export trade—made them dealers in foreign exchange and developed an aptitude for this business. The Bank of Montreal, for example, was one of the main dealers in the New York exchange market during the Civil War. It is doubtful if the outside business of the banks directly draws capital either to or from Canada; in general it is pretty much self-supporting.

The New York financial market has always been important to Canada, and most of the banks have maintained agencies there This connection has provided Canada with an inexpensive and efficient market for foreign exchange purposes and for the carrying of reserves. It has been the practice of the Canadian banks to keep part of their reserves in the form of call loans in New York. This system worked very well and assisted the efficiency of the Canadian system. The advent of the central bank modified this practice somewhat, and the establishment of foreign exchange control also affected this as well as other "outside" activities of the chartered banks Probably the system of outside reserves will never again be as important as it was prior to 1935, when the Bank of Canada was established.

Although every Canadian bank has a savings department distinct from the current one, there is no difference in the uses of the deposits so obtained. In the United States a bank is a commercial bank and most of its deposits are demand, non-interest deposits; its savings deposit business is small, and usually such deposits must be segregated and invested only in certain ways. Savings banks are usually distinct and separate institutions. Most of the banks which failed there have been commercial banks, and thus bank failures affect *demand* deposits rather than *savings* deposits. In Canada the so-called savings deposits are not treated differently from the others and are generally checked against (although to a lesser degree) demand deposits. Thus, when a Canadian bank fails, a *savings bank* as well as a *commercial bank* fails. This combination in the Canadian bank means, of course, that all the mobile funds of the country are used for commercial purposes—a matter of importance in earlier days.

In common with most branch systems, there has been a concentration of resources into the hands of a few banks. There were approximately 28 banks in operation at Confederation, something over 44 in 1880, about 40 in 1890, 36 in 1900, 29 in 1910, 18 in 1920, and 10 in 1934. This reduction in the number of banks, through failure and amalgamation, has been accompanied by a growth in total banking resources of the country, so that the individual bank has grown greatly. Also a few banks now control a greater proportion of the banking resources than previously, with the result that at the present time the four largest banks have control of more than three-quarters of the whole system's resources. This raises the matter of competition and monopoly.

In some matters, such as the rate of interest on savings deposits, the banks act in concert. The same is probably true with respect to what they term "minor profits"—that is, exchange charges and such like. A Canadian borrower also deals with only one bank, unless his account is a very large one. In other fields, there is evidence of competition. Managers compete for accounts and customers, and often make concessions to obtain them; much of the rivalry shows itself in "service" rather than direct financial offers. It may be concluded that even though there are also evidences of concerted action, there is still considerable competition in the day-to-day business of banking.

One form in which bank competition occurs is in the establishment of branches. At Confederation there were approximately 123 bank branches in Canada; by 1905 this had grown to 1,145, by 1916, to 3,200, and by 1920 to more than 4,600. The number decreased until now there are approximately 3,600. The great increase in branches coincided with the development of the West, which was given banking facilities as soon as the slightest need was shown. This rush in opening branches caused it to be overdone, with the result that in recent years many communities have been overbanked —from the viewpoint of the business to be done—and the banks have been withdrawing in an orderly manner. But the result has been that Canada has been given adequate banking facilities and practically all its areas have been well served. The ease with which a branch can be established has been a great factor in bringing such facilities to the newest areas. In many cases the first bank in a mining territory, for example, has been a tent with the bank's name on a board beside it. Yet this tent could offer the same facilities as the elaborate city office. Undoubtedly this capacity to offer the immediate service of a well-established organization is a great advantage of the branch system which is unrivalled in its capacity to meet the rapid development of an expanding country.

While the branch system has assisted greatly in the development of the new areas, it has been somewhat at the expense of the other parts. There is little doubt that some sections such as the Maritimes, have contributed a great deal of capital to the development of the other sections of the country. This has doubtless been to the benefit of the country at large, but not necessarily to the part contributing the capital.

In conclusion, it ought to be said that the Canadian system is an efficient commercial banking organization. It has a long record of achievement and efficient functioning which should not be underestimated or unappreciated, although—like most human institutions—it has had some members who were without honour or honesty. The system of training the personnel develops good "practical bankers," but does not train men in the broader aspects of their business. This, in the past, was not a serious matter, but now it is of more importance, and doubtless the system will adapt itself to the new needs. The creation of a central bank rounds out the Canadian banking structure and gives the head and direction which is needed in a present-day banking system. With its efficient commercial banks and the mechanism for a unified control of its monetary system, Canada has a monetary and banking system which is capable of serving the commonwealth well.

Bibliography: B. H. Beckhart, *The banking system of Canada* (New York: Holt, 1929), which is a reprint from H. P. Willis and B. H. Beckhart (editors), *Foreign banking systems* (New York: Holt, 1929); R. M. Breckenridge, *The Canadian banking system 1817-1890* (New York: American Economic Association, 1895); R. M. Breckenridge, *The history of banking in Canada* (Washington: Government Printing Office, 1910), which is one of the publications of the National Monetary Commission; C. A. Curtis, *Statistics of banking* (Toronto: Macmillan, 1931), which is vol. 1 of *Statistical Contributions to Canadian Economic History*; J. H. Creighton, *Central Banking in Canada* (Vancouver: Clarke & Stuart Co., 1933); *Interviews on the banking and currency systems of Canada* (Washington: Government Printing Office, 1910), which is a publication of the National Monetary Commission; H. M. P. Eckardt, *Manual of Canadian banking* (Toronto: Monetary Times, 1909); E. L. S. Patterson, *Canadian banking* (Toronto: Ryerson Press, 1932); *Report of the Royal Commission on Banking and Currency in Canada* (Ottawa: King's Printer, 1933); Adam Shortt, "Currency and Banking, 1760-1841" in *Canada and its provinces* (Toronto: Glasgow, Brook & Co., 1914), vol. 4; Adam Shortt, "Currency and Banking in Canada, 1841-1867", *ibid.*, vol. 5; Adam Shortt, "The Banking System of Canada", *ibid.*, vol. 10; B. E. Walker, *A History of banking in Canada* (Toronto: 1909).

CHAPTER III

Analysis of Bank Statements*

E. L. S. PATTERSON

A USEFUL and interesting feature of Canadian banking is the publication by the Government every month of a detailed statement of the position of each bank. The Bank Act requires the banks to furnish the Government with monthly statements of their assets and liabilities, in addition to the annual statement to the shareholders and the periodic reports to the Bank of Canada. The shareholders' statement differs only slightly from the monthly statements and is submitted to the shareholders at the annual general meeting, along with the profit and loss statement and the report of the auditors. The financial year of the several banks ends at various dates, principally during the winter months. The monthly statements are all as of the last day of the month and are more directly comparable. Both sets of statements are published widely and are subject to the closest scrutiny and analysis both by the press and the banks themselves.

A full understanding of a statement of a bank forms a very good introduction to a knowledge of banking conditions and procedure. A bank statement is primarily intended to show the distribution of the assets of a bank and to whom they ultimately belong, the public or the shareholders.

A bank occupies a dual relation to the public; it is on the one hand a borrower of credit and on the other a lender. The prime qualification for successful banking is so to command public confidence that the public will deposit money freely and continuously. The liabilities of a bank to the public and the ratio of the liquid assets thereto are, therefore, of the most vital importance to its existence and should be closely examined. In addition to being important to the business of banking the information contained in bank statements is most valuable in interpreting and understanding general economic conditions.

In order to analyze the different headings of a statement and their relation to one another we will briefly present two tables and explain the nature of the various assets and liabilities. Table I is taken from the monthly return to the government and shows the full wording and type of data reported. Table II represents a consolida-

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*Reprinted from E. L. Patterson, *Canadian Banking* (Ryerson, 1941), by the courtesy of the publishers and author.

tion of the annual balance sheets of a number of the banks for the three years 1937, 1938, 1939 with the figures reduced to a percentage of the total liability to the public. An analysis of the profit and loss statements shows the earning power of the total assets. The numbering in the amalgamated statement corresponds with that in the government return.

TABLE I—RETURN OF THE LIABILITIES AND ASSETS OF THE CANADIAN BANKS FROM THE GOVERNMENT STATEMENT FOR THE MONTH OF DECEMBER, 1939
(In Thousands of Dollars)

Liabilities		Statement	Percentage to Public Liabilities
1. Notes in circulation		$90,062	2.56
2. *Deposits by and balances due to Dominion Government*		129,544	3.67
3. Deposits by and balances due to provincial governments		50,497	1.43
4. Advances from Bank of Canada, secured		....	....
5. Deposits by the public, payable on demand, in Canada		852,999	24.19
6. Deposits by the public, payable after notice on a fixed day, in Canada		1,741,059	49.37
7. Deposits elsewhere than in Canada		474,478	13.46
8. *Deposits by and balances due to other chartered banks in Canada*		13,087	.37
9. Deposits by and balances due to banks and banking correspondents in the United Kingdom		78,403	2.22
10. Deposits by and balances due to banks and banking correspondents elsewhere than in Canada and the United Kingdom		37,780	1.07
11. Loans from other chartered banks in Canada, secured, including bills rediscounted		....	....
12. Bills Payable		330	.01
13. *Acceptances and letters of credit outstanding*		53,280	1.51
14. Liabilities to the public not included under foregoing heads		4,897	.14
Total liability to public		$3,526,418	100.00
15. Dividend unpaid	$1,423		
Undivided and accumulated profit	14,870		
16. Rest or Reserve Fund	133,750		
17. Capital paid up	145,500		
		295,543	8.38
Capital authorized		$211,500	6.00
Capital subscribed		145,500	4.13
Rate per annum of last dividend (and bonus, if any) declared		....	....
Aggregate amount of loans to directors and firms of which they are partners, and loans for which they are guarantors		9,425	.27
Average daily amount held in notes of and deposits with Bank of Canada during the month		288,464	8.18
Greatest amount of notes of the bank in circulation *at any time during the month*		98,312	2.79
Contingent liability on bills rediscounted with Bank of Canada		.. ..	....

Assets	Statement	Percentage to Public Liabilities
1. Gold held in Canada	$51	.00
2. Subsidiary coin held in Canada	4,341	.12
3. Gold held elsewhere	388	.01
4. Subsidiary coin held elsewhere	4,222	.12
5. Notes of Bank of Canada	70,573	2.00
6. Deposits with Bank of Canada	216,996	6.15
7. Notes of other chartered banks	5,439	.16
8. Government and bank notes other than Canadian	34,918	.99
9. Cheques on other banks	135,814	3.85
10. Deposits with and balances due by other chartered banks in Canada	4,085	.12
11. Due by banks and banking correspondents in the United Kingdom	31,906	.91
12. Due by banks and banking correspondents elsewhere than in Canada and the United Kingdom	167,150	4.74
13. Loans to other chartered banks in Canada, secured, including bills rediscounted	....	. .
14. Dominion and provincial government direct and guaranteed securities maturing within two years, not exceeding market value	671,231	19.04
15. Other Dominion and Provincial government direct and guaranteed securities, not exceeding market value	682,112	19.34
16. Canadian municipal securities, not exceeding market value	99,117	2.80
17. Public securities other than Canadian, not exceeding market value	71,698	2.03
18. Other bonds, debentures and stocks, not exceeding market value	121,807	3.45
19. Call and short (not exceeding thirty days) loans in Canada on stocks, debentures, bonds and other securities, of a sufficient marketable value to cover	52,869	1.50
20. Call and short (not exceeding thirty days) loans elsewhere than in Canada, on stocks, debentures, bonds and other securities, of a sufficient marketable value to cover	48,662	1.38
21. Current loans and discounts in Canada not otherwise included, estimated loss provided for	960,265	27.23
22. Current loans and discounts elsewhere than in Canada not otherwise included, estimated loss provided for	147,160	4.17
23. Loans to provincial governments	15,709	.45
24. Loans to cities, towns, municipalities and school districts	111,917	3.17
25. Non-current loans, estimated loss provided for	8,310	.24
26. Real estate other than bank premises	7,732	.22
27. Mortgages on real estate sold by the bank	4,025	.12
28. Bank premises, at not more than cost, less amounts, if any, written off	71,893	2.04
29. Liabilities of customers under acceptances and letters of credit as per contra	53,280	1.51
30. Deposit with the Minister of Finance for the security of note circulation	5,069	.14
31. Shares of and loans to controlled companies	11,311	.32
32. Assets not otherwise included under the foregoing heads	1,909	.06
Total Assets	$3,821,961	108.38

TABLE II—STATEMENT OF THE AMALGAMATED CANADIAN BANK, 1937-1939

Assets

	Percentage of the Total Liabilities to the Public					
	1937		1938		1939	
2. & 1. Subsidiary *coin* and *gold* in Canada		.16		.17		.16
4. & 3. Subsidiary coin and gold elsewhere		.14		.16		.12
5. Notes of Bank of Canada		1.72		1.84		1.83
6. Deposits with Bank of Canada		8.46		8.30		7.45
8. Government and bank notes other than Canadian		.86		1.01		.93
Total cash reserves		11.34		11.48		10.49
7 Notes of other Canadian chartered banks	.19		.19		.13	
9. *Cheques on other Canadian* chartered banks	3.74		3.53		3.35	
10. Deposits with other Canadian chartered banks	.07		.06		06	
11. & 12. Deposits with foreign banks	3.66		4.99		6.76	
20. Call loans elsewhere than in Canada	1.66	9 32	1.59	10 36	1 22	11.52
Total quick assets		20.66		21.84		22.01
14. & 15. Dominion and Provincial securities	35 79		35.40		37.44	
30. *5% Circulation Fund*	.20		.17		.14	
16. Canadian municipal securities	3.59		3 19		2.82	
17. Public securities other than Canadian	2.38		2.13		2.28	
18. Other bonds, debentures and stocks	4.39		3.92		3.53	
19. Call loans in Canada	2.73	49.08	2.04	46.85	1.55	47.76
Total liquid assets		69.74		68.69		69.77
21. Current loans in Canada	25.05		26.39		26 40	
22. Current loans elsewhere	5.28		4 85		4.04	
23. Loans to provincial governments	.86		.53		.38	
24. *Loans to cities, towns, etc.*	2.98		3.58		3.08	
25. Non-current loans	.35		.29		.24	
		34.52		35.64		35.14
28. Bank premises	2.42		2.30		1.99	
26. Other real estate	.28		.26		.21	
27. Mortgages	.14		.13		.12	
31. Shares of and loans to controlled *companies*	.38		.36		.31	
32. Other assets	.06		.06		.05	
		3.28		3.11		2.68
29. Liabilities of customers under letters of credit		2.05		1.79		1.52
Total assets		109.59		109.23		108.11

Liabilities

	Percentage of the Total Liabilities to the Public					
	1937		1938		1939	
1. Notes in circulation		3.57		3.13		2.61
2. & 3 Dominion and provincial government deposits	2.85		2.23		7.85	
4. Advances from the Bank of Canada	..				..	
5. Demand deposits in Canada	23.25		24.29		23.85	
6. Notice deposits in Canada	52.51		52.72		47.88	
7. Deposits elsewhere	13.70		13.87		13.67	
		92.31		93.11		93.25
Deposits bearing interest	61.22		60.17		53.79	
Deposits non-interest	31.09		32.94		39.46	
8. Deposits of Canadian chartered banks	.45		.46		.34	
9. & 10 Deposits of foreign banks	1.47		1.37		2.12	
		1.92		1.83		2.46
12. Bills payable	.04		.01		.01	
13. Letters of credit outstanding	2.05		1.79		1.52	
		2.09		1.80		1.53
14. Other liabilities		.11		.13		.15
Total liability to the public		100.00		100.00		100.00
17. Capital paid up	4.78		4.60		4.01	
16. Rest or Reserve Fund	4.42		4.24		3.70	
15. Dividends declared and unpaid	.10		.10		.08	
Undivided profits	.29		.29		.32	
		9.59		9.23		8.11
		109.59		109.23		108.11

ANALYSIS OF CANADIAN BANK STATEMENT

Liabilities

The liabilities of a bank to the public are of vital importance and will be considered first.

These may be roughly divided, as shown in Table II (1939) into circulation 2.61%, sundry liabilities 4.14% and deposits 93.25%. Although the ratio of the latter remains practically the same as it was thirty years ago (90.74% in 1912), considerable change has taken place in the percentages of the various classifications in the deposit group. These are referred to below under their respective numbers on the Government statement.

(1) *Circulation:* In the statement given the circulation, stands at 2.61% as against paid up capital of 4.01%. As would be expected from the provisions of the Bank Act governing the reduction in the chartered banks' note issue, the circulation figure is growing smaller.

(2 and 3) *Dominion and Provincial Government Balances:* These represent balances carried by the Dominion and the various Provincial Governments and, after circulation, form a first lien on the assets of a failed bank.

(4) *Advances from the Bank of Canada:* This item is provided to record any borrowings from the Bank of Canada. Very few borrowings have occurred to date.

(5) *Deposits Payable After Notice:* A reference to the statement will show that 48% of the liabilities to the public consist of time or savings bank deposits. They form the largest individual item in the statement. In 1912 these deposits formed nearly 60% of the total liability to the public. This difference is occasioned chiefly by increases in the amounts due the Dominion Government and foreign countries and the greater use of current accounts. Time deposits are so called because they are deposits made in the savings bank department of a bank and, under the rules of the department, are subject to a withdrawal notice of fifteen days. Practically they are payable on demand as no bank now makes a practice of exacting the required notice, although the majority still retains a clause to that effect in their pass-books. All these deposits bear interest at the rate of 1½% compounded semi-annually on the minimum quarterly balance.

(6) *Demand Deposits:* Demand Deposits (23.85%) represent amounts due to individuals and firms payable on demand. These accounts do not bear interest except in special cases where a large unused balance is kept which could otherwise be transferred to the savings bank department. Current accounts are frequently run at a loss, owing to the small balance maintained and the expense of handling the number of cheques issued. To prevent the abuse of the checking privilege banks are now making a small charge for carrying small accounts, based on the number of cheques issued and the balance carried.

Free and Interest-Bearing Deposits: In the annual statements issued to their shareholders it is customary to replace the classification of deposits comprising 93.25% of the total liability and show the deposits under only two headings, free and interest-bearing deposits. The notice deposits in Canada (48%) are interest-bearing, and of the balance (45.37%) it will be noted that only 5 91% receive interest, leaving 39.46% free balances. These additional interest-bearing deposits are composed of large and more or less permanent demand deposits in Canada and savings accounts abroad.

(7) *Deposits Elsewhere:* These amount to 13.67% and are deposits by individuals and firms made in branches outside of Canada. They comprise both *savings* and demand deposits. Combining them with the deposits maintained by foreign banks they amount to more than 15.79%, representing funds supplied by depositors outside of Canada. An examination of the asset side of the statement shows that these amounts are left invested outside of Canada and on deposit with foreign banks.

(8) *Due Banks in Canada* (.34%): Owing to the fact that practically every Canadian bank is represented by branches in the redemption centres and other large towns, there is no necessity for it to maintain balances with other banks for the protection of its interests at those points, and any balances which may be due between banks in Canada are merely matters of convience in connection with collection arrangements.

(9 and 10) *Due to Banks in Foreign Countries:* Under this heading are included all amounts due to foreign correspondents (2.12%), representing balances which are maintained by banks of Great Britain, United States, Europe and elsewhere which have business relations with Canada.

(12) *Bills Payable* (.01%): These consist of 60- and 90-day drafts drawn principally on London and which have to be met at maturity in sterling. They are drawn in connection with foreign exchange transactions to provide funds for drafts issued or to anticipate a rise in the exchange rates.

(13) *Letters of Credit* (1.53%): These, the amount of which is offset by contra account, are issued to customers to provide funds for the purchase of goods abroad (Commercial Letter of Credit) or cash for travellers (Travellers' Letter of Credit). When first issued a contra account is raised on the asset side. As the credit is drawn against, the amount is credited to the correspondent and debited to the customer's account and the Letter of Credit accounts on both sides reduced accordingly.

There *is practically no liability incurred by the bank in these* transactions as the amounts are protected by cash on deposit, bills of lading for the goods or by other satisfactory security lodged with the bank. Letters of Credit are invariably issued for larger amounts than actually utilized.

(14) *Other Liabilities* (.15%): These consist of items for which the statement does not provide a heading, or for amounts in process

of adjustment. This item consequently fluctuates in amount, is generally small and occasionally disappears.

Assets

In the selection and distribution of its assets a bank must have constantly before it one of the basic principles of credit, namely, that the currency of the assets should not exceed the currency of the liabilities. Normally the liabilities of a bank are payable practically on demand in gold or in what the law declares to be an equivalent legal tender. In other words, the principal source of bank earnings, the loans, must be restricted in amount and currency in order that the less profitable liquid assets may be maintained to meet instantly and fully all claims that may be made against the bank. For this purpose the assets of a bank are roughly divided under the following main headings:

	Per cent.
Cash Reserves	11.34
Quick Assets	9.32
Liquid Assets	49.08
Liquid Position	69 74
Loans	34.52
Sundry Assets	5.33
	109 59

There is sometimes a lack of uniformity in the classification of the various items composing the liquid position, but the allocation made here is based on the following considerations:

Cash Reserve: This consists of deposits with the Bank of Canada and of cash *in till* immediately available.

Quick Assets: All these items can be liquidated and/or transferred within twenty-four hours or less.

Liquid Assets: These items if sold, or in the case of call loans called, require a little more time to realize upon. Pending a sale or to meet a temporary emergency they could be borrowed against.

(1 and 2) *Subsidiary Coin and Gold in Canada* (.16%): This is mainly subsidiary coin—silver, nickel and copper.

(3 and 4) *Subsidiary Coin and Gold Elsewhere* (.12%) is similar to the previous heading.

(5) *Notes of the Bank of Canada* (1.83%) and (6) *Deposits with the Bank of Canada* (7.45%) are self-explanatory and show the importance of the Bank of Canada in supplying "bank cash."

(7) *Notes of Other Banks* (.13%): Every day the banks accept the notes of every other bank and send them to the nearset branch

for redemption. Hence every day all over Canada the banks undergo a test of their ability to redeem their circulation, no matter how freely it is offered for redemption.

(8) *Government and Bank Notes Other than Canadian* (.93%): By far the larger portion of this is in United States currency, the balance consists of Bank of England notes and legal tenders of other countries.

(9) *Cheques of Other Banks* (3.35%): This amount represents cheques of other banks in process of clearing. These have been deposited by customers during the day, and in the ordinary course are presented and redeemed through the "Clearing" the following morning. As the customer is given credit the same day and the bank does not receive clearing returns until the following day (or later if a Sunday or holiday intervenes), this amount represents a loss of at least one day's interest to the banks and forms a very considerable item in the course of a year. The average amount outstanding under this heading for all banks represents a steady loan to the public for that amount without interest. In addition to this item the amount of cheques in internal transit between the city branches of the different banks themselves which do not pass through the clearing would increase the amount by over 20%.

(11 and 12) *Deposits with Foreign Banks* (6.76%) · These *amounts* represent the balances maintained in the United States, Great Britain and elsewhere abroad in connection with exchange operations.

(14) *Call Loans Elsewhere* (1.22%): Call loans are carried in London and New York and form a secondary reserve.

This item of call loans carried by certain of the larger banks in New York and London has in the past subjected them to a great deal of undeserved criticism, as it was a common belief on the part of the public that the Canadian banks lent money in New York, because of the higher rates obtainable there, instead of lending it at home. Moreover the public had the erroneous impression that these funds originate entirely in Canada.

The following statement shows the foreign assets and liabilities of all the banks on November 30, 1939, with their percentage to the total liabilities to the public.

This table shows that actually a net balance of foreign assets prevails. In other words some foreign capital is available for use in Canada. This present situation is in contrast to that which used to prevail when there was a small balance the other way, and removes

TABLE III—Foreign Assets and Liabilities of Canadian Chartered Banks on November 30th, 1939

	Amount (in thousands of Dollars)	Percentage to Total Liability to Public
Liabilities		
Deposits in branches abroad	$186,817	13.61
Deposits of foreign banks	118,921	3.32
	$605,738	16.93
Assets		
Deposits in banks abroad	$230,875	6.45
Call loans	45,339	1.27
Loans	143,324	4.01
Balance available for Canada	186,200	5.20
	$605,738	16.93
Maturing Obligations Abroad		
Bills payable	$371	.01
Letters of credit	52,658	1.47
	$53,029	1.48

most of the argument and criticism against the "outside" operations of the Canadian banks.

As regards earning a higher rate of interest in the foreign call markets, the argument is fallacious. The rate for call loans in Canada is seldom below 5 per cent., while the call loan rate in New York seldom rises above 3 per cent. and the rates on call and short loans in London are usually lower than those which prevail in New York. The average rate for call loans in New York is often less than 2 per cent., from which must be deducted the heavy state tax on loans of foreign corporations in New York, which makes the net rate received by the Canadian banks still less.

New York is one of the international money markets of the world to which funds flow freely from abroad. Normally gold can be obtained there at any time. The Canadian banks have on numerous occasions tested their ability to liquidate loans in New York and bring them to Canada in the shape of gold. New York is within half a day's journey from Montreal or Toronto and to all intents and purposes is just as convenient as if the gold were kept in Montreal or Toronto.

Call loans abroad were a much more important matter before the establishment of the Bank of Canada than they are now. In the past these call loans were important to the safety of the bank *as they provided liquid assets which could on demand be turned* into cash reserves. Now the Bank of Canada can provide the necessary cash requirements of the chartered banks. Thus call loans abroad have become a less significant item in this respect. They have also declined in quantitative importance.

Another factor in the situation is that of meeting foreign exchange obligations in the form of bills payable and letters of credit, etc. In the payment of its debts due abroad, or in selling exchange against commodities shipped by Canada, New York is the market where all such transactions must be settled and, therefore, ready money is, in the majority of cases, needed in New York.

It will be noticed that Canadian banks maintain a very liquid position in the foreign branches, the cash assets in the form of bank balances and call loans being 46% of the foreign deposits.

(14-18) *Securities* (46.07%): These consist of government and municipal bonds and other first-class investments. The banks are not restricted in their choice of securities and may purchase not only government, provincial and municipal bonds, but also the bonds of domestic and foreign railways and industrial corporations. Banks look upon these securities as a kind of secondary reserve and include them with call loans among their liquid assets. In recent years this *class of asset has increased in importance as loan assets diminished* relatively. This shift is of considerable interest and significance.

(30) *Deposit for Note Circulation* (.14%): Each bank must maintain with the Minister of Finance a deposit equal to at least 5 per cent. of its average notes in circulation during the year. This fund can be used if a bank fails at any time to redeem its issue in specie or legal tender. All the banks are liable *pro rata* for any shortage. It is practically a mutual guarantee fund by all the banks of each other's circulation.

(19) *Call Loans in Canada* (1.55%): Call loans in Canada represent advances made to brokers and other customers, principally the former, on the security of first-class stocks and bonds, with an average margin of some twenty per cent. below the market value of the stock. With a narrow market for stocks in Canada, especially for stocks not listed on the New York Exchange, these loans have not the liquidity of call loans in London and New York.

Current Loans (33.90%):

This is an asset which requires the most careful and unremitting attention on the part of the branch manager and the head office.

Current loans can be broadly divided into advances to customers and bills and notes discounted. The latter are the most desirable because they are principally composed of trade bills, with a currency of from sixty to ninety days, and as a rule can be relied upon to be retired at maturity. A good portfolio of bills is no mean factor as a part of the reserve. Canadian banks as a rule refuse to take longer term paper than that of three or four months' currency; in fact, the average currency of a good bill file should not exceed six weeks, which means a steady flow of money coming in every day, even if only 50 per cent. of the items maturing were paid in full.

(21) *Current Loans in Canada* (26.40%): Under this heading are included commercial and agricultural loans and discounts which form the bulk of the item (No. 21). Provision is made in the statement form for loans to Provincial Governments (No. 23) and to municipalities and school districts (No. 24).

(22) *Current Loans Elsewhere* (4.04%): This amount represents loans made in the branches of a bank situated outside of Canada.

(23) *Loans to Provincial Governments* (.38%) and (24) *Loans to Cities, Towns, etc.* (3.08%): These items are self-explanatory and under proper conditions a desirable type of loan.

(25) *Non-Current Loans* (.24%): This is a heading which was once known as "Overdue Debts." All accounts which develop unsatisfactory features in the opinion of the directors or shareholders' auditors are included in this amount, full provision for anticipated loss being provided for.

Included in the statement required from the banks by the first Bank Act was a column headed "Overdue Debts"; but considerable confusion always existed among the banks as to its exact intention. Temporary delay in the settlement of a fully-secured note legally placed it under this classification. The real intention was to show the amount of doubtful loans of a bank, and the heading was therefore changed in the 1923 revision to "Non-current loans, estimated loss provided for," and section 113 of the Act states that there shall not be included in "Current Loans" any loan in respect of which:

(a) the borrower has not for a period of two years preceding the date of such return, statement or balance sheet, paid the interest thereon at the rate agreed, in cash, unassisted by the bank;

(b) the bank has taken possession of the property or any part of the property covered by any security given by the borrower with the intention of realizing thereon, or has realized or taken any step or proceeding for the purpose of realizing upon any security given by the borrower;

(c) the bank has commenced an action at law to recover from the borrower the amount of the loan or any part thereof,

(d) the borrower *has made an abandonment of his estate for the benefit of* his creditors or any of them; or,

(e) there is other cause, sufficient in the opinion of the manager of the branch of the bank where such loan is domiciled, or in the opinion of any director or officer of the bank who prepares, signs, approves or concurs in such return, statement or balance sheet, for deeming such loan not to be a current loan

Provided, *however, that any loan falling within this subsection* may be included amongst current loans if the directors declare that after due inquiry they have approved such loans as a current loan.

In the original draft of the Minister of Finance a "non-current loan" was defined as one which no interest has been paid for a period of twelve months. This was considered by the banks as unduly severe, especially on the farmers and stock raisers, as it would effect 50 per cent. and upwards of these loans, particularly in the West, and would seriously affect a bank's ability to continue much needed assistance to these obligants.

As loans are the largest individual item in a bank's assets every precaution is taken by the managers, the credit department at head office and the inspection staff to avoid making advances likely to get into this undesirable condition. All loans including non-current items are constantly under the supervision of the shareholders' auditors and the Inspector General, who see that the requirements of the Bank Act are complied with.

Fortunately non-current loans do not form a serious feature in the statement, averaging only .30 to .40 per cent. of the total liabilities.

(28) *Bank Premises* (1.99%): It is a sound theory in business life that no plant or building should be carried at cost on the books of an institution for any great length of time, but that each year a certain amount should be written off for depreciation. This practice is followed by all banks in Canada.

(26) *Other Real Estate* (.21%): Banks are forbidden by the Act to hold real estate other than that required for their own premises, nor can they lend on mortgages. They may, however, take a mortgage as additional security for *a debt already incurred,* and in case of foreclosure they are allowed to bid in the property, but cannot hold it over a certain length of time.[1] Real estate other than bank premises, in the statement, represents lands which have been acquired in this manner and brought in by the bank in its effort

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[1] Such property must be disposed of within seven years, though the Treasury Board may extend the time for a further period or periods not exceeding five years. (Section 82, Bank Act.)

to improve the position of a doubtful or a bad debt. Banks naturally try to get rid of property thus acquired as quickly as possible and in making sales frequently sell for part cash and accept security for the balance in the shape of a mortgage. These are shown in the statement as *Mortgages on Real Estate Sold* (.12%).

(31) *Shares of and Loans to Controlled Companies* (.31%): Some of the banks rather than lock up capital in bank premises arrange with a subsidiary company to purchase land and erect offices. On the completion of the offices bonds are issued amply secured by real estate. Funds for interest and redemption are provided by the rent paid to the company by the branch, which is sufficient to pay the interest and ultimately retire the issue. The greater part of the amount represents funds temporarily advanced while building is in progress. Most of these companies have a substantial surplus although on the books of the bank the stock is recorded at a nominal figure, generally one dollar.

(32) *Other Assets* (.05%): Represents items in process of adjustment or for which no column is provided.

Proprietors' or Shareholders' Interest

As in a commercial statement the difference between the assets and liabilities represents the proprietors' interest, which consists of capital paid up, surplus, undivided profits, etc. The statement shows that out of every hundred dollars of assets nearly ten dollars belong to the shareholders.

(17) *Capital Paid Up* (4.01%): The Bank Act requires an initial capital of $500,000 of which $250,000 must be paid up in cash before a charter is issued. For this reason the Canadian banks are well capitalized, there being no bank with only the minimum capital. Standing of the banks on December 30, 1939, was as follows:

TABLE IV—CAPITAL AND SURPLUS OF CANADIAN CHARTERED BANKS, 1939

	Capital Paid Up	Surplus
Bank of Montreal	$36,000,000	$39,000,000
The Royal Bank of Canada	35,000,000	20,000,000
The Canadian Bank of Commerce	30,000,000	20,000,000
The Bank of Nova Scotia	12,000,000	24,000,000
The Dominion Bank	7,000,000	7,000,000
Imperial Bank of Canada	7,000,000	8,000,000
Banque Canadienne Nationale	7,000,000	5,000,000
Bank of Toronto	6,000,000	9,000,000
Banque Provinciale du Canada	4,000,000	1,000,000
Barclay's Bank (Canada)	1,500,000	750,000
	$145,500,000	$133,750,000

(16) *Surplus or Rest Fund* (3.70%): The rest fund is accumulated gradually from two sources, first, increments from annual profits, *thus decreasing the amount available for dividends,* and second, from the sale of new stock at a premium. For instance, a bank whose stock has a market value of $210 will offer shareholders a new issue of stock at $200 or at a premium of $100. Capital paid up is increased $100 for each share sold and the rest fund by a similar amount. Roughly speaking from 30 to 40% of the average bank's surplus has been paid, in hard cash, by the shareholders themselves.

Undivided Profits (.32%): This item does not appear in the Government statement except as the difference between total assets and total liabilities and is only shown in definite form when the banks publish their annual statements. In December, 1939, statement shown in Table IV, this difference, for all the banks, is in round figures $13,000,000 and consists of the undivided profits of the last annual statement plus accumulated gross profits in the interval. This amount, of course, fluctuates considerably during the year as from *the gross profits must be deducted current running expenses, interest* on deposits, dividends, etc. At the end of a bank's year running expenses and interest on deposits are paid to date, unearned interest on loans deducted, the necessary appropriation for bad debts, etc., made and the disposition of the balance remaining, shown in the profit and loss account, submitted to the shareholders.

(15) *Dividends Declared and Unpaid* (.08%): This represents *dividend cheques issued to shareholders but still outstanding.* The Bank Act limits the payment of dividends to 8% per annum unless the surplus is equal to 30% of the paid up capital after providing for all ascertained and estimated losses, but this condition is met by practically all the Canadian banks. In addition to the customary dividends, banks used often to declare a bonus in prosperous years but no bonus distributions have been made since 1930. In fact, until 1930 it was rare for a bank to reduce its dividend rate once a rate was regularly established. But since that date practically every bank has reduced its rates so that now only one bank has a rate of 12%, two a rate of 10%, four a rate of 8% and two a rate of 6% or less. This represents a very substantial change from the situation which prevailed before 1930 and indicates that, contrary to common public opinion, the banks have their own difficulties in maintaining their earnings.

Profit and Loss Account

The items in this account have been converted to a percentage of the *total assets,* a larger amount than the liability to the public and consequently the percentages are somewhat smaller; undivided profits, for instance, are shown as .28% as against .29% in the main statement. The percentage of the shareholders' interest to total assets is:

Capital Paid Up	3.71
Rest Fund	3.43
Undivided Profits	.28
Dividends Unpaid	.08
	7.50

(b) *The Profits for the Year* were 53 cents per hundred dollars of assets. Before 1914 the average earnings were about 1.25%. This substantial decrease in earning power is due principally to the great increase in taxes, salaries and other operating expenses without any increase in bank rates or charges for services. Banks in the United States have been similarly affected in profits and are operating under clearing house schedules of charges for services that were formerly rendered free.

(c) *Reserve for Government Taxes on Circulation, etc.* (.13%): This item is self-explanatory and refers to taxes accrued to date of statement.

(d) *Written Off Bank Premises:* It is customary to make a substantial "write-off" on bank premises, in this instance approximately 5%.

(e) *Pension Fund:* The contributions of the staff being insufficient to maintain pension funds on a sound actuarial basis, the banks make annual contributions for that purpose.

(f) *Dividends Paid* (.31%): After providing taxes, depreciation and pension fund amounting to .20%, there is left .33% available for the shareholders; dividends absorb .31% of this, leaving a balance of .02% to be added to .21%, the amount of undivided profits brought forward from the previous year, making the balance forward .23%.

The amount available for the shareholders just permits of the customary dividend of 8.36% on paid up capital of 3.71% in 1939, but the shareholders' interest is considerably more than the paid up capital, namely, 7.50% and on this basis the earnings were 4.4% and the dividend paid 4.13%. The method of basing earnings as a

TABLE V—Profit and Loss Account of the Amalgamated Canadian Bank, 1937-1939

	Percentage of Total Assets					
	1937		1938		1939	
Cr.						
(a) Balance from previous year	.20		.21		.21	
(b) Profits for current year	.60		.59		.53	
		.80		.80		.74
Dr.						
(c) Government taxes, circulation, etc..	.13		.14		.13	
(d) Written off bank premises	.05		.05		.04	
(e) Pension fund	.03		03		.03	
(f) Dividends paid	.37		35		.31	
(g) Transferred to Rest account	00		00		.00	
(h) Balance carried forward	.22		.23		.23	
		.80		.80		.74

percentage of capital alone instead of on the total shareholders' investment of capital and surplus is a misleading one and gives the public an erroneous idea of the earning power of the banks and does not form a fair method of comparison.*

CHAPTER IV

The Trend of Bank Loans and Investments in Canada*

J. D. GIBSON[1]

THE chartered banks occupy a central position in the financial structure of Canada. Indeed, it can be said that the story of business, in prosperity and depression, is written in the changes in the volume and rate of turnover of bank credit and in the changes in the relative importance of the banks' current loans and security holdings.

One usually thinks of the banks in their capacity as lenders as providing working capital for business and commerce, thereby financing the flow of production and distribution. They are, in fact, the principal suppliers of short-term working capital and today some $975 million, or about one-quarter of their assets, are in current loans to industry, commerce, and agriculture. This avenue of employment for bank funds, however, has been of decreasing importance over the past twenty-five years and though there has been some improvement recently, bank loans are relatively low as compared with the twenties. The expanding portion of bank assets has been security holdings which today are about $1,600 million, representing more than 40 per cent of banking resources. Nearly five-sixths of this huge total is invested in Dominion and provincial bonds, the remainder being in Canadian municipal obligations, in public securities of other countries, and in corporate bonds and stocks. The banks are also the leading source of call money but here the demand has been small and at the present time such loans amount to only $50 million or thereabouts.

There is no question but that the chartered banks are much the largest source of short-term capital both for private and public purposes. Not only are their commercial and call loans of a short-term nature but even their holdings of government bonds are concentrated

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[1] Some of the material presented herein appeared in an article by the writer published by the *Canadian Banker*, Jan., 1938. The editor's kind permission to draw upon the article is hereby acknowledged.

in the shorter maturities. Their operations, however, bear a very important relation to the capital market as a whole. In the first place, the total volume of bank investments and loans represents the amount of outstanding bank credit. In the second place, changes in the character of bank assets (e.g., the growing importance of security holdings and the decreasing importance of commercial lending in recent years) affect the direction of investment not only in the short-term field but to a significant extent in the longer-term capital market. It therefore follows that the activities of the banks are of major importance in the movement of the whole structure of interest rates. For instance, the growing purchases of short and medium-term high-grade securities by the banks have tended to drive down interest rates not only in this field but, by adding to the pressure of funds seeking investment in the high-grade market, in the longer-term sphere as well.

FACTORS DETERMINING BANKING POLICY

But when this is said, it should be remembered that the banks are strictly limited in their choice of investment policies. The nature of their deposit liabilities compels the banks to concentrate their funds in the short-term field and precludes ventures where the element of risk is high. In addition, they have little freedom to choose between commercial lending and buying government securities. Had they such freedom of choice they would unquestionably be employing a much larger proportion of their funds in current loans than is practicable today. The fact of the matter is that the business demand for bank accommodation is closely related to the state of economic conditions and apart from the "ups and downs" associated with prosperity and depression this demand has been shrinking steadily since the earlier years of the century. Furthermore, the banks have little independent ability to enlarge the total of their loans and investments, for this is mainly determined by business conditions and governmental policy.

Turning first to the total volume of lending and investment by the banks, it may be said that this is largely determined by two factors: (*a*) the ratio of cash to liabilities; and (*b*) the opportunities of investment. At any given time, the banks attempt to work to constant, though not necessarily identical, ratios between their cash reserves and liabilities to the public. Over the last twenty years, however, it appears that the ratio for the banking system as a whole has varied between 7 per cent and 11 per cent. When opportunities for profitable employment of funds have been favourable, the ratio has tended to be lower than at times when commercial demands for accommodation have been slack.

While the cash ratio has varied appreciably, it must not be assumed that the banks have to this degree deliberately influenced the total volume of credit in the country. Their actions have been largely the result of individual considerations of profit and liquidity which, depending on the circumstances, may or may not have influenced the amount of bank credit. Furthermore, it is worthy of note that in 1929, when the cash ratio was lowest, the first line of secondary reserves, call loans in New York, was at high levels so that the banks were in a position to enlarge their cash reserves by liquidating such foreign assets.

Prior to the establishment of the Bank of Canada the banks' cash reserves were comprised mainly of Dominion government notes, gold and foreign currency balances. Since the regular Dominion note issue could be expanded only when the additions were backed by gold, the banks' cash reserves were closely related to the changes in Canadian gold stocks. *An important element of flexibility, however,* was provided by the Finance Act, which permitted the banks to borrow additional Dominion notes at rates set by the Government. On a few special occasions the Government saw fit to increase the uncovered portion of the Dominion note issue, thereby enlarging the banks' cash reserves.

Since 1935 the responsibility for changes in the cash reserves of the banking system has rested with the Bank of Canada, which at that time took over the Dominion note issue and the bank and government holdings of gold. The chartered banks' cash reserves against their Canadian liabilities now consist of Bank of Canada notes and deposits at the Bank of Canada, and the Bank of Canada is in a position to effect changes in these reserves largely through the purchase or sale of securities in the open market.

It will be clear that variations in the cash reserves of the banking system must have an important effect on banking policies. In times of expanding business, an addition to cash reserves will increase the ability of the banks to enlarge their loans, while in times of recession such an increase of cash will stimulate their purchases of securities. In 1932 and 1934, for example, the Government saw fit to make available some $88 million of additional Dominion notes, the bulk of which finally came to rest as cash reserves in the banks. More recently the Bank of Canada, through open market operations, has made some further additions to the banks' cash reserves. In these circumstances, the Canadian banks, unable to expand their current loans to any large extent, have competed keenly for government issues of short and medium-term securities.

While the cash position of the banks—that is, the ratio of cash reserves to deposit liabilities—is thus a significant factor influencing the volume of bank lending and investment, the most important factor of all is the demand for bank funds from private and public sources, which in turn depends upon the state of business and government policy. A high cash ratio in itself does not necessarily mean that the loans and investments of the banking system will be expanded accordingly, unless there are sufficient opportunities for increasing loans or purchasing suitable securities. The position in the United States today is striking evidence of this point, for the member banks of the Federal Reserve System are, and have been, carrying huge surplus cash reserves which they are unable to utilize.

CURRENT LOANS VERSUS SECURITY HOLDINGS

In regard to the uses to which bank funds are put, the most profitable avenue is commercial lending. When business is good and the demand for accommodation from credit-worthy borrowers is strong, current loans (and incidentally bank profits) tend to expand substantially.[2] When business is depressed, commercial lending naturally tends to decline and holdings of government securities usually expand. Investment in this latter field, though attended by greater balance sheet liquidity than in the case of current loans, may offer comparatively low returns, as has been the case in recent years.

The banks' security portfolios have usually continued to increase for some time after the low point of depression has been reached. This was true of the three years following 1933 as well as of the three years which followed the post-war depression. The more recent experience was particularly a reflection of the continued "easy money" policy, which facilitated the issuance of government securities necessary to finance unemployment relief and agricultural assistance. It also reflected the lack of other opportunities for investment, for commercial loans continued to contract. During the middle thirties the upturn in prices and the expansion of production enabled many firms and individuals to liquidate their hitherto frozen bank loans and to reduce unduly large loans. The sale of the wheat surplus of the early thirties has tended to be lower than at times when commercial demands for accommodation have been slack.

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[2] With only two exceptions since the last war, bank profits have expanded every year that current loans have increased and have fallen off every year that such loans have decreased.

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CURRENT LOANS VERSUS SECURITY HOLDINGS

In regard to the uses to which bank funds are put, the most profitable avenue is commercial lending. When business is good and the demand for accommodation from credit-worthy borrowers is strong, current loans (and incidentally bank profits) tend to expand substantially.[3] When business is depressed, commercial lending naturally tends to decline and holdings of government securities usually expand. Investment in this latter field, though attended by greater balance sheet liquidity than in the case of current loans, may offer comparatively low returns, as has been the case in recent years.

The banks' security portfolios have usually continued to increase for some time after the low point of depression has been reached. This was true of the three years following 1933 as well as of the three years which followed the post-war depression. The more recent experience was particularly a reflection of the continued "easy money" policy, which facilitated the issuance of government securities necessary to finance unemployment relief and agricultural assistance. It also reflected the lack of other opportunities for investment, for commercial loans continued to contract. During the middle thirties the upturn in prices and the expansion of production enabled many firms and individuals to liquidate their hitherto frozen bank loans and to reduce unduly large loans. The sale of the wheat surplus of the early thirties involved a sharp reduction in the heavy loans advanced against grain, and the series of poor wheat crops also reduced requirements for bank loans. In addition, the initial stages of business expansion were financed to an appreciable degree out of idle working capital which had not been required during the depression period.

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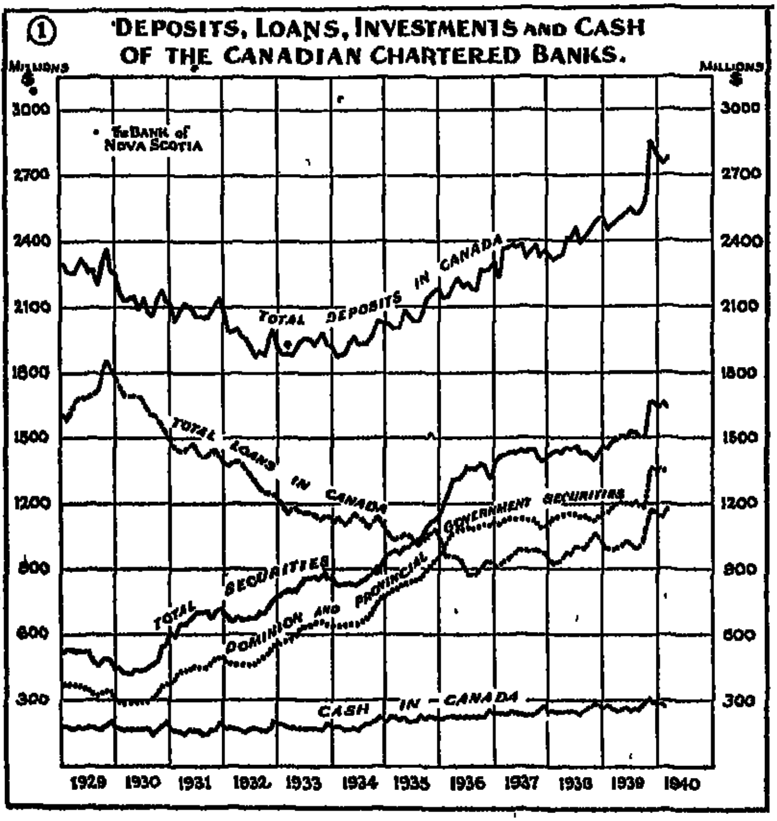
[3] With only two exceptions since the last war, bank profits have expanded every year that current loans have increased and have fallen off every year that such loans have decreased.

CHART I



It is not necessary to dwell upon the reasons for the periodic declines in commercial lending. They are fundamentally a symptom and not, as is sometimes suggested, a cause of depression. If any proof were needed for this statement, it is only necessary to point out that depressions in this country have invariably originated from without its borders. They have usually resulted from declining prices and contracting foreign markets for Canada's staple products, leading to reductions in export income. Decreasing export income, combined with the general effects of declining prices on business decisions, has necessarily been accompanied and followed by diminished profits and curtailed production throughout the economic structure as a whole.

The movement of bank loans and security holdings since 1929 is shown along with cash and deposit liabilities in Chart I. As will be seen, the decline in loans persisted until the latter part of 1936 and was followed by a very gradual increase up to the fall of 1939 when, with the large wheat crop and the outbreak of war, there was a substantial advance. Security holdings, on the other hand, rose steadily (with minor variations) from early in 1930 until the beginning of 1937. From then until the outbreak of war, there was only a small net increase, but in October, 1939, the Government war loan sold to the banks lifted the total to a new high level. The great bulk of the expansion of recent years, as the diagram shows, has occurred in Canadian government securities.

There has thus been a radical change in the character of bank assets over the past decade. The banks' holdings of securities today are considerably larger than their total loans, whereas ten years earlier security holdings were very much smaller than loans, indeed, only about one-third the size.

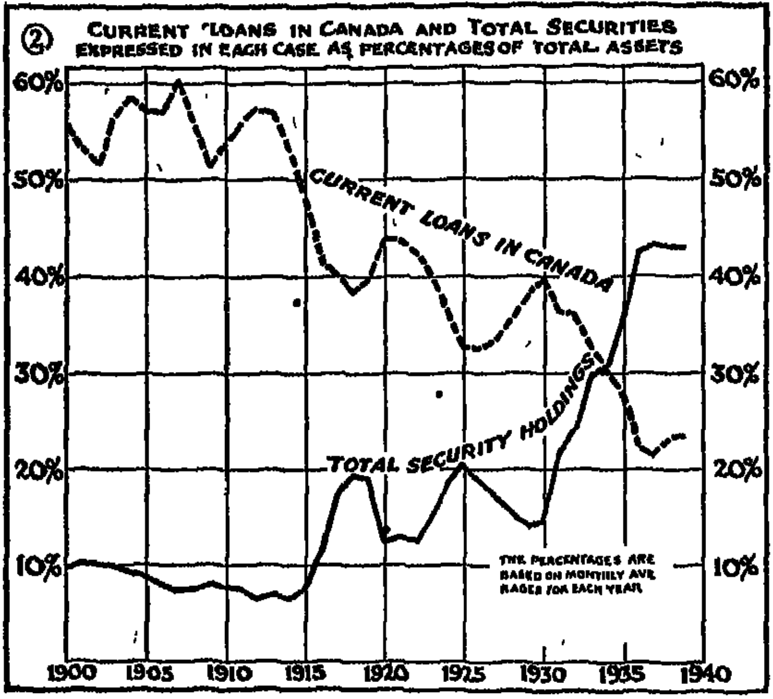
[Editor's note: The trend in the character of bank assets during the thirties was accelerated by wartime financial developments. Security holdings of the chartered banks increased almost three-fold between 1939 and 1946. Bank loans in Canada, on the other hand, indicated a fluctuating course during the same period, loans in 1946 being slightly higher than in 1939.]

THE DECLINING TREND OF BANK LOANS

This brings us to a consideration of longer-term trends, for the decline in the relative and absolute importance of loans over the past decade is the result of certain long-term tendencies as well as of the depression. Indeed, the relative importance of current loans has been decreasing for a quarter of a century, while at the same time securities have been gaining a more important place in bank assets.

These broad developments are clearly illustrated in Chart II which shows current loans and security holdings expressed as percentages of bank assets since 1900. It will be noted that as a percentage of total assets, current loans have declined from between 50 and 60 per cent prior to the last war to around 25 per cent today, while security holdings have risen from between 6 and 10 per cent of total assets to more than 40 per cent. While loans have clearly responded to prosperous economic conditions, the peak of each succeeding period of recovery has been substantially lower than the preceding one. Similarly, while the importance of security holdings has tended to diminish in times of prosperity, these changes appear only as short-term interruptions in the broad upward trend.

CHART II



What are the reasons for this striking change in the character of bank assets? Turning first to the downward trend in commercial lending, several factors deserve attention. For one thing, there has been an increasing disposition and ability on the part of many businesses to finance working capital out of corporate savings. During the latter part of the last war and post-war boom, and even more in the period from 1925 to 1929, rising profits permitted many concerns to lessen their dependence on, or even to free themselves from, the need for bank accommodation. In addition, the market for corporate bonds and equities, both at home and in the United States, has become much wider since pre-war days. The "new era" was particularly famous for its ability to absorb new stock flotations and corporate bond issues, which, so far as they were used for working capital needs, lessened the demand for bank loans. Another influence closely allied to these tendences has been the growing size of the average business unit, exemplified by the trend toward consolidations and mergers. Large enterprises have, as a rule, easier access to the capital market than small concerns. Moreover, big corporations have often tended to plough in profits and establish large reserves, thereby diminishing their requirements for bank loans. The big corporation, indeed, has not only come to rely less upon banking accommodation but has also been providing a growing proportion of its long-term capital requirements out of its own savings.

These factors are to some extent a reflection of the growing maturity of the Canadian economy, of the gradual transition from a situation marked by heavy imports of long-term capital, associated with a relative scarcity of working capital, to a position marked by net exports of long-term capital and a relative abundance of working capital. This change has been accompanied by the development of a domestic bond market, of stock exchanges, and of the general machinery for corporate financing, as well as by a greater interest on the part of Americans in the obligations and equities of Canadian companies. Speedier processes of production and more rapid transportation have also played a part in reducing requirements for working capital. In addition, the Canadian banks have been faced with a certain amount of competition in the commercial lending field, particularly of an indirect character, from the United States. Canadian subsidiaries of American concerns are often financed entirely through the parent company which, so far as it requires bank accommodation, is likely to get it from United States banks.

It must also not be overlooked that prices generally have been tending downward during most of the period since 1920. There can be no question but that this has contributed to the decreasing importance of bank loans. Another factor working in the same direction was the persistence of drought over considerable areas of Western Canada for the greater part of a decade. While this situation did not prove to be permanent, so long as it lasted it restricted commercial lending both directly and through the general effects of poor crops on the income of the Prairies and indeed on that of the Dominion as a whole. To a substantial degree, the downward trend in current loans also reflects a lack of flexibility in the Canadian economic system. That is, it provides evidence of the slowness and difficulty of adjustment to the violent changes in export income during and since the last war. The latter factor, combined with a growing sense of social responsibility, has given rise to demands for government assistance and intervention, leading to a marked expansion of the public debt. Here is the main reason for the upward trend in the banks' holdings of securities. While some of the influences behind the broad trends of loans and investments are peculiarly Canadian, it is of interest to note that the same general shift in the composition of bank assets has been going on in the United States and to some degree in Great Britain. In the United States, indeed, the trends are just as pronounced and are of even longer standing than in Canada.

[Editor's note: Current loans in Canada reached a wartime peak in 1941 ($1,186 million) but thereafter declined until 1945; then rallied somewhat ($1,267 million) in 1946. This would seem to indicate that bank loans are no more than holding their own in absolute terms, and, as compared with other assets, are drastically declining. The following table indicates these recent trends in bank loans, and in the ratio of bank loans to assets:

CURRENT LOANS IN CANADA*

	1939	1941	1942	1943	1944	1945	1946
Average of month-end figures ($ million)	988	1,186	1,155	1,115	1,066	1,135	1,267
Percent of current loans *to total assets*	27	30	26	22	18	18	17

*Computed from statistics in the *Bank of Canada Statistical Summary*, 1946 Supplement p. 9 and the *Statistical Summary*, Dec. 1946-Jan. 1947, p. 4.]

THE NATURE OF SECURITY HOLDINGS

Information on the nature of the banks' security holdings is presented in Table I. As has already been indicated, the great expansion has occurred in holdings of Dominion and provincial bonds (including guaranteed obligations). From a figure of $342 million in 1929, such holdings rose to an average of $1,234 million in 1939 and the total is even higher today. Before the last war the total was comparatively negligible, amounting to only $10 million in 1913. Indeed, in those days, the banks held far more corporate securities than government bonds.

The classification shows that in 1939 over $500 million of the total Dominion and provincial security holdings were short-term, i.e. maturing within two years, and it is probably safe to say that much of the remaining $718 million of these securities were of a medium-term character. In addition to these government obligations, the banks hold a little over $100 million of Canadian municipal bonds and $78 million of British and foreign government securities. There has been an appreciable rise in total holdings in these two groups over the past ten years, but since prior to 1934 they were published in one combined figure there is no way of telling what the individual changes have been. The last item in the table, designated as "other securities," has also increased considerably since 1929. The only definite fact known about this item is that it is confined to obligations of private as distinct from public enterprise. Presumably it is largely made up of Canadian corporate bonds and stocks. But despite the increase of recent years, this type of investment represents only a small proportion—less than 10 per cent—of the banks' security holdings.

TABLE I

Chartered Bank Security Holdings

(Annual averages of month-end figures in $ million)

	1913	1929	1933	1937	1939
Short-term Dominion and provincial securities (maturing within 2 years)	10	342	627	445	516
Other Dominion and provincial securities				674	718
Canadian municipal securities	23	104	164	114	102
British and foreign public securities				68	78
Other securities	71	53	50	125	126
Total security holdings	104	499	841	1,426	1,540

[Editor's note:

Chartered Bank Security Holdings*

(Annual averages of month-end figures in $ million)

	1939	1942	1943	1944	1945	1946
Short-term Dominion and provincial securities (maturing within 2 yrs.)	516	997	1,598	1,842	1,863	1,573
Other Dominion and provincial securities	718	810	807	1,149	1,575	2,162
Foreign Government securities	78	106	167	209	228	276
Other	228	161	142	154	191	276
TOTAL	1,540	2,073	2,714	3,353	3,858	4,287

*From the *Bank of Canada Statistical Summary*, 1946 Supplement, pp. 8-9, and the *Statistical Summary* Dec. 1946-Jan. 1947, pp. 17-18. (Note: this table does not completely coincide with that of Mr. Gibson in Table I.)

From 1939 to 1946 there was a tremendous increase in chartered bank security holdings, for the most part in Government securities. The ratio of security holdings to bank assets was almost 60% in 1946. The increase was much more rapid in holdings of short-term government securities, which rose from $516 million in 1939 to $1,598 million in 1943, and attained a peak of $1,863 million in 1945. At first, holdings of longer-term (over two years) government securities rose much less rapidly, from $718 million in 1939 to $807 million in 1943. Since then, however, bank holdings of these securities have increased much more rapidly, reaching $2,162 million in 1946. However, early in 1946 the Dominion Government, the Bank of Canada and the chartered banks reached an agreement whereby the chartered bank holdings of Dominion Government securities, other than very short-term securities such as deposit certificates or treasury bills, were to be limited to 90% of their Canadian savings deposits. If the banks wish to invest in Dominion Government securities beyond this proportion, they may purchase short-term securities and treasury bills.]

THE NATURE OF BANK LOANS

Information on the nature of bank loans was not compiled prior to 1934, so that no long-term comparisons are possible. However, Table II shows clearly the character of the further decline in loans

TABLE II

CLASSIFICATION OF BANK LOANS

(As at October 31, in $ million)

	1934	1936	1938	1939
Agriculture (including grain)	215	118	149	268
Forestry	74	65	75	57
Mining	7	7	9	6
Fishing	7	8	9	7
Construction	22	24	39	46
General manufacturing	140	130	138	136
Railways and public utilities	71	8	25	36
Merchandising	117	116	134	134
Financial	276	283	250	220
Municipal and school districts	107	92	115	112
Other loans	114	83	116	121
Total Canadian loans	1,150	934	1,059	1,143

from 1934 to 1936 and of the increase since 1936. In addition, it provides a picture of the distribution of bank loans between the various types of business.

In 1939, agricultural loans were the largest single group. About four-fifths of this total represented loans against grain and the remainder loans to farmers. Next came loans for financial purposes, covering advances to brokers and individuals, and to insurance, trust, and loan companies. The third group in point of size was manufacturing, followed closely by merchandising. In the case of manufacturing, however, the surprising thing is the smallness of the item. When it is remembered that the manufacturing industries produce nearly one-third of the national income, their proportion of bank loans—less than one-eighth—appears very low. It is in this field that so many of the large corporations are engaged, and it is these which have been increasingly financing their own operations. Similar observations apply to the very low figure for mining where the developed properties are, to a very large extent, capable of financing themselves while the exploration and early development work is generally of too speculative a character to permit substantial advances.

Turning to the movement of loans in recent years, it will be seen that the decline in the total from 1934 to 1936 was largely the result of a big reduction in agricultural loans and of a sharp drop in loans to railways and public utilities, reflecting the repayment of a large loan by the C.P.R. In regard to the increase since 1936, the leading factor has likewise been agricultural loans, which rose abruptly last year as a result of the big wheat harvest. Other types of loans which have expanded considerably are construction, railways and public utilities, municipalities, and merchandising. The notable growth in the construction group is principally a reflection of the success of the Home Improvement Plan. There was only a very moderate advance in manufacturing loans, and loans for financial purposes declined substantially.

[Editor's note:

The various trends in types of bank loans are indicated below. Loans to agriculture have steadily decreased since 1941, whereas loans to general manufacturing and merchandising increased almost proportionately from 1939 to 1946; financial loans remained steady from 1939 to 1941, fell markedly in 1942, and rose steeply in each succeeding year to 1946.]

CLASSIFICATION OF BANK LOANS*

(As at October 31, in $ million)

	1939	1941	1943	1946
Agriculture (including grain)	268	340	296	178
Forestry	57	44	43	79
Mining	6	7	10	14
Fishing	7	11	8	16
Construction	46	50	46	72
General manufacturing	136	245	259	239
Railways and public utilities	36	20	13	16
Merchandising	134	156	100	240
Financial	220	214	167	382
Municipal and school districts	112	78	48	27
Other loans	121	109	87	118
TOTAL Canadian loans	$1,143	$1,275	$1,078	$1,439

*Detailed statistics of this summary table may be found in the *Bank of Canada Statistical Summary,* 1946 Supplement pp. 18-19, and the *Statistical Summary* Dec. 1946-Jan. 1947, p. 6.

THE WAR-TIME SITUATION

With the outbreak of war both bank loans and investments rose sharply and since November have been comparatively steady (see Chart I). However, the increase in loans (of about $150 million from the end of August to the end of November) was largely a result of the big wheat crop, though there was some improvement in general commercial demands. The increase of security holdings was a direct reflection of the war, being entirely attributable to the Government's $200 million short-term loan from the banks.

What is the outlook for bank lending and investing under war-time conditions? In the last war the banks added very substantially to their security portfolios, and though current loans showed a net increase from 1914 to 1918, it was comparatively small; as a percentage of total assets loans declined sharply. But while the experience of the last war is of interest it would be dangerous to regard it as a precedent. The Canadian financial situation twenty-five years ago was very different from what it is today. In those days we lacked a developed domestic capital market and it was not until the latter part of the war that large domestic public loans proved to be practicable. The Government's sources of revenue were also restricted by the absence of a broadly based tax system; and again it was only toward the end of (or even after) the conflict that such potentially important sources of taxation as the income, excess profits, and sales taxes were tapped. Under these conditions considerable reliance was necessarily placed upon the banks.

Today, in contrast, the machinery of taxation is well developed and there is a very substantial domestic capital market. The Government has indicated that it intends to make full use of these facilities, that it will, so far as is feasible, finance the war through taxation and borrowing from the public's savings. Heavy borrowing from the banks might well prove inflationary if it were carried out on a large scale for a considerable length of time, and the Government has expressed its resolve to take all practicable steps to avoid inflationary financing. The loan from the banks last October cannot, therefore, be regarded as the beginning of a continuous policy. Some expansion of bank credit at that time was desirable in order to facilitate the growth of production and employment, and in these circumstances the loan from the banks was not inflationary, and it is possible, indeed, that some further expansion of bank credit may be necessary before the nation's productive capacities are fully utilized. This, of course, does not preclude the possibility of a large increase in the banks' holdings of government securities, for if the war is long and intense the Government's need of funds will be an increasing one.

In regard to current loans, the higher rate of business activity may result in some further increase. Much will depend, of course, on the level of prices and upon the size of the wheat crop. There is little or no possibility, however, of commercial loans again occupying as important a place in bank assets as in the twenties. Any improvement that does occur will be a result of greater business activity or higher prices, for there is no reason to believe that the more permanent causes of the declining position of bank loans have become inoperative.

CHAPTER V

Tendencies in Canadian Investment*

D. C. McGREGOR

BEHIND the developments of the last twenty-five years lie several long-term trends[1] in investment which became well known in the nineteenth century. The first is the increasing amount of capital equipment and investment per head, as indicated, for example, in the industrial censuses and public accounts of Canada and other countries. The second trend is the closely associated increase of savings. Larger savings have been made possible by a long-term rise in the level of real income (i.e., of output per head) and more especially by the concentration of that income into the hands of limited numbers of well-to-do persons, some of whom make its re-investment their main pursuit. A third trend is the tendency toward specialization of financial functions. Prior to the last war specialization had not proceeded far beyond the minimum required for commercial banking, insurance, a small stock exchange, and trust and loan companies. Recent examples of increasing specialization, discussed elsewhere in this volume, are the emergence of investment trusts, of companies financing instalment sales, of investment companies in mining, of a central bank, and of federal provision for mortgage financing.

A fourth trend is the larger amount of capital employed by the average industrial enterprise, owing to the development of branch plants and vertical integrations. The increasing amount of capital investment has altered the character of the typical borrower, in some cases expanding his credit requirements but in others diminishing them almost to zero. It has diminished the personal element in risk and identified the fortunes of single enterprises more closely with the country at large.

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*Reprinted from *Canadian Investment and Foreign Exchange Problems*, ed. J. F. Parkinson (University of Toronto Press, 1940).

[1] Throughout this paper the term "trend" is freely used for want of a better word. Through the last twenty-five years all that one can see plainly are violent oscillations and maladjustment; in all this there is not, strictly speaking, any trend whatever but simply recurrent breakdowns of the foundations of economic stability.

Had there been no Great War or other cataclysm, these trends would no doubt have continued without abrupt change. Following the lines of older countries the institutions of a capital market would have emerged over several generations. Outlets for investment would have become more diversified and investment institutions more specialized. Saving and lending would have proceeded without serious dislocations either within countries or across international boundaries. Speculation in farm land would almost certainly have slackened as frontiers of settlement pushed into less favoured northern regions, while speculation in urban property would have subsided at least in part; in short, land would have lost much of its importance as a store of value. Government mortgage lending would not have become important and no reason for moratoria or large-scale debt adjustment would have arisen. Government housing projects would not have become an issue except for the lowest income groups in the community, as first mortgage money would probably have been available and comparative stability of employment would have enabled borrowing at low rates. Little if any additional monetary control would have developed unless we assume an intensification of booms and depressions, or the need for government borrowing. Public debts would have risen, especially those of provinces and municipalities, and in the absence of a federal war debt important adjustments of taxing powers and government activities would no doubt have been made long before this to check the growing debts of subsidiary governments.

These are might-have-beens. Some are almost inevitable. Others are largely conjectural, based on the belief that but for the Great War the economic progress and comparative stability of the late nineteenth century would have continued. They serve mainly to throw into relief the sharp dislocations of later years and the breakdown of the investment process arising from those dislocations. In addition, they suggest questions as to the petering out or even the reversal of the economic progress of the post-Napoleonic century, the answers to which can be given only from the perspective of a later generation.

FROM THE GREAT WAR TO THE GREAT DEPRESSION

It is generally agreed that the Great War enormously accelerated the development of the Canadian capital market by causing an unprecedented demand for public borrowing. Through a measure of inflation it furnished a supply of savings to meet the demand while in order to bring demand and supply together the investment banking business expanded and specialized to an extent which would otherwise have occurred only over generations. Under the combined influence of patriotism, advertising, solicitation, oratory, and 5½ per cent the public became "security conscious" over night and a bondholder next morning. It also learned that a government bond was the open-sesame to bank credit and bought another bond on the strength of it.

The spending of the borrowed funds, along with the cutting off of trans-oceanic imports and the shortage of shipping, expanded many branches of existing domestic industry. At the same time the demand for munitions, high explosives and aircrafts brought into being many new industries hitherto found only in Great Britain, the United States and Germany. As a result Canada emerged from the War with a larger industrial plant (some of which later had to be scrapped), a greater command of modern industrial methods, and a more diversified production.

After the War these developments laid the basis for a wide public participation in the financing of new industrial ventures. The public sold its tax-free Victory Bonds at a profit and bought bonds of provinces, municipalities, and paper and power companies with the proceeds. In bringing borrower and lender together, the sales forces and promotional functions of the greatly expanded investment banking business found a much needed substitute for the wartime activities which brought most of them into existence. Meanwhile, enormous credit operations within the United States and later between the United States and foreign countries enhanced the prestige of bond issues and the status and profits of dealers. To become a bond salesman was the aim of many an ambitious college graduate; to gain a competence through security speculation became the goal of those who had been disappointed by the sluggishness of real estate markets, or who had never before known the possibilities of speculation in any form. In the late nineteen-twenties immense sums of money were also borrowed in Canada by private individuals, secured by mortgages based upon relatively high urban property values. This was in marked contrast to the situation at the peak of prices in 1919 and 1920 when, apart from western farm mortgages, relatively few commitments were made. The risks inherent in the "new era" were overlooked, except in agriculture where the steady withdrawal of insurance and trust companies from the field of farm lending reflected the risk arising from unstable and low farm income.

As the post-War decade drew to a close, the gradually rising wave of stock speculation and of corporate refinancing dominated the scene. For the first time large numbers of Canadian investors speculated elsewhere than in land.

AFTER 1929

In contrast with the Great War, which for the most part accelerated long-term tendencies already in evidence, the depression which began in 1929 reversed as many trends as it accentuated and brought into being new laws and new financial institutions. At the outset the decline of commodity prices in the face of more or less rigid costs for labour, transport, interest, and taxes inevitably reduced the income and credit-worthiness of business enterprises. The associated collapse of security and property values completed the disorganization, making it all but impossible to raise capital whether by stocks, bonds, or mortgages, and withdrawing the incentive to do so.

Notwithstanding this disorganization, the flow of funds from the public into the hands of insurance and trust companies continued, while customers of the banks repaid their loans. There followed an irresistible pressure upon the management of these institutions to reinvest the proceeds without delay.[2] But where? Government bonds alone were considered safe. By the end of 1934 prices of even the highest grade bonds had been driven so high that no long-term investment could be regarded as wholly free from the risk of capital depreciation.[3] Insurance companies and banks, therefore, concentrated their purchases upon short-dated bonds of the Dominion Government and the safest provinces and municipalities. New issues and refunding were resumed by these strong borrowers, the new borrowing being rendered necessary by government deficits. Gradually the stronger private corporations and lesser governments also re-entered the market, mainly for the purpose of refunding rather than for raising new capital.

Elsewhere defaults on interest and principal became common, spreading from farm mortgages to corporation and municipal bonds first in Western Canada and then in the East. The former public confidence in bonds, stocks, and mortgages gave way to panic selling and unwillingness to buy existing issues even at unprecedentedly high yields. Provincial Legislatures introduced moratorium legislation to protect home owners and farmers from foreclosure. Faced with rising costs for unemployment and farm relief, they experimented with several types of partial default on their own obligations. As the decay of public credit among weaker governments spread, the lowness of bond prices was first justified, then aggravated.

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[2] Purchases of government securities by the chartered banks were also stimulated by increases in their cash reserves; these increases were in turn the result of policies of the federal Government and an increasingly active balance of international payments.

[3] The course of interest rates in Canada from 1929-37 is shown in the accompanying chart, reproduced (by permission) from S. E. Nixon, J. T. Bryden, and W. T. G. Hackett, "Interest Rates in Canada" (*Canadian Journal of Economics and Political Science*, Aug., 1937).

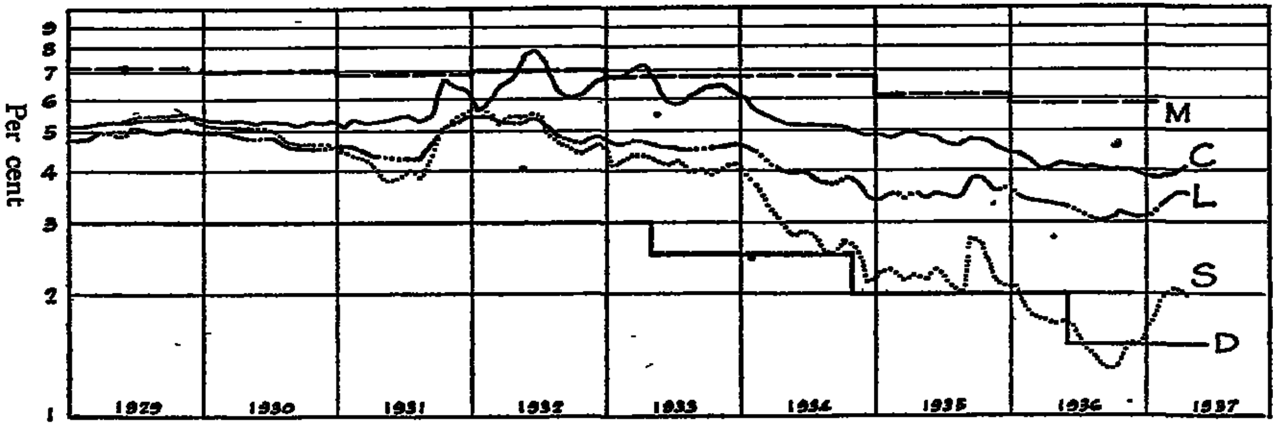
The private individual was now faced with the choice of following the example of institutional investors and making a virtually riskless investment at unprecedentedly low yields (by ownership of a savings account or a short-term, high-grade bond) or a relatively speculative investment at 7 per cent or more. As 2 or 2½ per cent has little appeal to the individual investor, there was still a strong incentive to engage in risky investment with some hope of capital gains, notwithstanding the *débâcle* of 1929. Speculation has been further encouraged by the long-term trend of commodity prices. Many investors, fearing that such prices would sooner or later rise to unprecedented heights as a result of excessive government borrowing, have made efforts to "hedge against inflation" through purchase of common stocks. Thus risks arising from long-term monetary instability induce investors to accept other risks which from a short-term standpoint are even greater. As an offset, the principle of diversification (widely publicized by the "common stock theory of investment" in the 1920's) is now widely practised, thousands of investors virtually running their own little investment trusts. The resulting concentration upon speculative shares has probably increased the short-term risk of holding this type of security though it has "widened the market."

Willingness to take a chance is the necessary condition of industrial progress and prosperity but is not sufficient in itself to result in continuous lending and creation of capital goods. There must be venturesome borrowers as well as lenders and for there to be venturesome borrowers there must in turn be opportunities for the profitable employment of capital. In the absence of such conditions, speculation will be confined to existing shares instead of spilling over into new issues, the capital market becoming purely a second-hand shop for outstanding issues.

The outcome of the tendency of institutions toward bonds and of private individuals to speculation in existing issues has been

THE COURSE OF CERTAIN CANADIAN INTEREST RATES, JANUARY, 1929, TO APRIL, 1937

Logarithmic Chart



crystallized in the resulting stock of capital goods and the associated capital liabilities. The nation's stock of capital goods is smaller and of a different character than it would have been had earlier tendencies and a more normal functioning of the capital market persisted. There is relatively less investment in modern farm equipment and housing, in up-to-date steam and electric railway equipment, and in the most efficient types of factories and machinery; there is relatively more investment in public property such as highways, post offices, and other public buildings. A more striking difference lies in the accumulated liabilities. Instead of large issues of the common and preferred stock and direct investments (reserves) of private enterprise, we find a vast addition to the public debt, bearing interest at a fixed rate, maturing at a given date, and imposing a further drain upon the tax revenues. Moreover, this debt is to a large extent owed to banks and insurance companies, institutions whose importance is such that drastic adjustment of the tax burden and debt cannot be undertaken without far-reaching consequences for the whole community.

From the standpoint of institutional lenders, risk has been avoided by lending mainly to the stronger governments. From the standpoint of governments the dangers arising from social, economic, and political upheaval have been tempered with the proceeds of this lending. Meanwhile, public assistance has been granted directly and indirectly to distressed provinces, municipalities, and private enterprises, enabling them to meet their obligations and preventing heavy losses to a multitude of investors. In all this it would seem that a fairly satisfactory adjustment to the financial uncertainties of the post-War decade had been attained. When the situation is viewed as a whole, however, the results of these efforts do not appear as encouraging as when viewed from the standpoint of the particular interests involved.

THE SOCIAL NECESSITY OF RISK

The effort to avoid risk may defeat itself by petrifying a large part of the economy. Be it remembered that it is the basic principle of a competitive system that some ventures win (i.e., prosper) and others lose, from which it follows that risk must always be present. The pages of modern economic history are crowded with events which demonstrate the importance of this principle. In periods of expansion, declining industries are sustained for a time and risk appears low, but with the onset of a depression the full extent of their obsolescence and the growing strength of their competitors are revealed. Well-known contemporary examples may be found in the steam and electric railways, the legitimate stage, and silent motion pictures, while during the past century most small canals, stage coaches, and sailing-vessels suffered the same fate, together with numerous handicrafts and thousands of small, uneconomic factories. With each decline, a certain number of stockholders lost money and a certain number of contracts were broken. No amount of concentration upon bond issues could have avoided the major losses unless investors had possessed perfect foresight.

Liquidation of unsound positions was essential; had they been supported by public regulation or by aid from the public treasury their more efficient successors could hardly have come into existence. The principle may be restated somewhat differently as follows: in a dynamic economy, the fixation of capital *with borrowed money* depends for its continuance upon either

(1) a national income which grows sufficiently to be capable of paying interest and dividends on steadily rising capital liabilities without seriously prejudicing the position of other participants in income, or

(2) the wiping out by repayment, by conversion into equities or by default, of a margin of preferred obligations (particularly those represented by cumulative contracts such as bonds, cumulative shares, and first-mortgages) at a rate fast enough to prevent such claims from absorbing a disproportionate amount of the total income received from investments. (The elimination of a margin of equity holders is taken for granted.)

It follows, except under the unusual circumstance of a national income which is steadily growing (case 1 above), that the condition of continued capital creation (i.e., debt creation) is a considerable *amount of debt extinction.*[4] And debt extinction (except in the unusual case of a net repayment[5]) involves losses for investors. Thus we find that the continued effectiveness of the competitive system and the capital market depends upon the paradox that risk, the supposed enemy of investment, shall be present but not omnipotent.

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[4] To the extent that capital is created from corporate savings this statement must be modified.

[5] Repayment of the principal of a bonded debt out of earnings does not usually reduce the total amount of bonded debt (i.e. there is no net repayment), since the amount repaid is usually reinvested in another bond issue. It follows that it is almost impossible for a whole country to get itself out of debt, except with respect to other countries.

One is reminded of the naturalist's observation that deer thrive best when there are wolves around.

If by taking thought cautious investors manage to protect and improve their position, they throw risk on to other shoulders but *rarely eliminate it from the economy as a whole.*[9] For example, withdrawal of private lending in the field of farm mortgages has not reduced the risks of farming, but has meant that governments have had to step in as lenders. Again, increased institutional lending to governments through the purchase of bond issues has raised the quality of investment portfolios but has at the same time created heavier governmental fixed charges which in turn have produced a heavier and less flexible tax burden. As a result the citizen as owner of an insurance policy or a bank deposit is more secure, but as a taxpayer or owner of mortgages or common stock he is less so.

To the investment expert of an insurance company, an orderly, secure, and improving world would be one in which every investment fulfilled the expectations of its originators, in which depreciation and amortization were always covered, and in which accumulations compounded neatly at 4½ or 5 per cent. To the economist such a process is technically impossible in the economic system as a whole, unless the national income grows at an approximately equal rate. Thus far the required growth of income has been attained only in the heyday of expansion in rapidly developing countries. It has usually been supported by a long-term upward trend of commodity prices, a trend which necessarily lowers the purchasing power of the investor's dollar to such an extent that the compounding is largely illusory when the interest payments are expressed in terms of commodities.

Thus we have found what appear to be conflicting tendencies. Financial institutions have gradually turned away from mortgages and bank loans and sought the safety and liquidity of high-grade, short-term bonds. This change has thrust risk on to other shoulders. The individual investor, on the other hand, has if anything become more speculative. He has become so in spite of, or perhaps because of, the instability of recent years. Except in so far as he is protected by his life insurance, which often involves indirect participation in ownership of bonds, he has gradually been pushed out of the ownership of bonds and real estate by low yields or low liquidity, or both.

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[9] The caution of investors may, of course, prevent a highly risky new industry from coming into existence, or check the expansion of an old one, thereby confining enterprise to the safer ventures.

He has instead become an owner of easily negotiable securities many of which do not yield an income but on which he hopes to make a capital gain. Apart from participation in new mining ventures, his speculations have for a variety of reasons been confined mainly to outstanding shares of existing enterprises.

Part Two

INDUSTRIAL FLUCTUATIONS AND FISCAL POLICY

CHAPTER VI

An Appraisal of the Workability of Compensatory Devices*

J. M. CLARK†

I HAVE been told that no talk should include more than three ideas. Since the topic assigned me inevitably involves a larger number, it seems well to indicate at the start the points I shall stress the most. They lie in the field of expansion via deficit spending. The first point is that deficit spending can produce an industrial expansion, probably larger than itself, but tending to dwindle rapidly and disappear if the deficit spending stops. The second is that it is highly improbable that this form of stimulus can itself serve to initiate a revival that will endure after the stimulus is removed. And the third is that indefinite deficit spending is not an enduringly workable remedy for chronic, partial stagnation of an economic system like our own. I shall return to these points after dealing more briefly with other kinds of compensatory devices than deficit spending.

A preliminary question is: For what kinds of disturbances or dislocations are the measures aimed to compensate? It seems necessary to distinguish: (1) short cycles, (2) longer and more severe movements, and (3) a possible chronic state of partial stagnation which might be described as an underemployment-equilibrium, though not excluding cyclical fluctuations, (4) connected with these conditions, and especially with the third, secular changes in economic balance such as that resulting from a declining rate of growth of population or, possibly, of requirements for industrial capital. These distinctions will be kept in mind in the subsequent discussion of different compensatory devices.

I. CREDIT CONTROLS

About credit controls I shall say little, deferring to those who are more expert. In general, they appear suitable to deal with the shorter cyclical movements. Also, since they have more power to restrain than to stimulate, they are appropriate to that theory which holds that the cause of depression is the preceding boom, and that the way to limit the depression is to restrict the boom. Further, if this type of policy succeeded in its immediate aim, its direct effect would seem to be an averaging of the rate of activity in booms and depressions, rather than a leveling-up to full-capacity rates of operation. If this averaging were accomplished, there might then be a further long-run tendency to bring unused resources into use and so gradually to level the rate of activity upward; but this is a debatable point, and the policy itself would seem to have no positive and direct effect in that direction.

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If control were comprehensive, extending to all forms of credit, *it could limit industrial expansion; but our existing machinery is* not comprehensive to the necessary extent, and it seems to be unable *wholly to stop "bootleg credit," as was illustrated in the stockmarket* boom of 1929. It appears that for the purpose there is need of some *qualitative control of the uses to which credit is* put, and *distinctions* between different forms of credit do not at present seem a sufficient means of controlling the uses. Credit may be put to other uses than its form would naturally indicate. Consumer credit would need to be included in the system of control. And even granting comprehensive control, easy credit terms are not enough to make people use funds if prospective profits are a minus quantity. They can have some stimulative effect under favorable conditions, but they cannot of themselves bring the favorable conditions to pass, and their stimulative effect is limited. Credit control cannot by itself be expected to iron out major fluctuations by regularizing investment, and especially not to regularize it upward.

II. TAXED MONEY

Of systems of taxed money I am tempted not to speak at all, especially as they will be discussed later. As to the comprehensive system suggested by Mr. Dahlberg, I am impressed by the amazing complexity and ramification of the equipment of controls he finds necessary. Considering that any such new project of control regularly finds in practice that there are many additions necessary to stop up unforeseen gaps, one wonders what this system would grow into in application, even if the preliminary project is so complicated.

As to the form recently voted down in California, I am puzzled by the problem of the negative rate of interest implied in the present worth of a credit instrument yielding $100 at the end of a year and requiring weekly outlays amounting to more than $100 before the date of redemption. It also seems clear that the projected expansion of the flow of the circulating medium had no relation at all to any estimate of unused productive capacity which must be brought into use to supply the increase in real wealth which would be necessary if the money distribution were to produce any economic benefits. Further comment would perhaps be hardly useful. In any plans of this class, the uncertainties appear to baffle any attempt to predict results, including the uncertainty as to what the plan would turn into after it had failed to work precisely as first intended.

III. UNEMPLOYMENT INSURANCE AS A MEANS OF REGULARIZING CONSUMERS' BUYING POWER

There is, of course, plenty of justification for this policy apart from its possible effect as a compensatory device. Considered solely from the latter standpoint, it is clearly suited to short cycles. In longer and larger movements, the "insurance" feature would presumably break down, and the system would become simply one form of deficit spending. In so far as it acts as insurance, benefits during depressions would be financed by the use of the accumulated reserves, in one way or another. But the liquidity of these reserves is a real problem; and it appears that for the purpose in hand this liquidity would be largely fictitious. Securities should not be dumped in large quantities on the markets at the times when large payments have to be made, these being precisely the times when the markets are least able to absorb them. Moreover, these are just the times when the credit policy will point toward open-market purchases of public securities, rather than sales. Thus it seems that the reserves may more appropriately be used as collateral for borrowing. This consideration appears to strengthen the case for the proposition that reserves of the present type and amount are not called for in this variety of insurance. This question deserves serious consideration, together with the question whether a pay roll tax is the most rational method of stimulating employment.

How much effect can such a system have in stabilizing consumers' purchasing power? It seems hardly necessary to argue that it could not bring about complete stabilization, nor anything near it. The difficulties of financing such a burden are only too obvious. And it is also only too obvious that it is not practicable to guarantee workers, when they are not working, an income equal to what they earn when they are fully employed in a prosperous state of industry. This would mean that they would be guaranteed, for not working, more income per week than industry could possibly afford them when it is depressed and can offer only part-time employment. If the first movements of industry toward revival are not to be squelched, it must be possible for industry to hire workers who are receiving unemployment benefits, giving them something considerably short of full-time employment, and still affording them earnings which are larger than the unemployment benefits they have been receiving. In the nature of the case, the benefits cannot represent what we regard as a satisfactory "American standard of living." By benefits so limited, the shrinkage of purchasing power can be reduced, and depressions mitigated, but the major part of the problem will remain.

There is the further possibility of enabling individual industries or individual employers to secure lower premium rates by improving their unemployment record. This is sound in principle, but raises the question how much the individual industry or employer may be able to do in this direction. So far as the benefits cover seasonal unemployment, they are dealing with something which the individual employer can sometimes do a good deal to reduce, especially if cyclical fluctuations are absent or are not too severe. But cyclical fluctuations, except for minor and fairly regular ones, are too large and too uncertain for the individual employer to do much about by his own individual policy. And if they are violent, they carry with them a disruption of many kinds of schemes of seasonal stabilization.[1] This appears to have happened during the Great Depression. Here again, the possibilities of stabilization via unemployment insurance appear decidedly limited.

IV. INCREASED WAGES AS A MEANS OF INCREASING CONSUMERS' PURCHASING POWER

First, we may assume that prices are raised enough to reimburse producers for increased wage outlays. This would not need to include at first any allowance for increased costs of inventory already on hand. The first effect would presumably be a temporary boom like that of the summer of 1933, occurring during the interval after the program was determined on and before it went into effect and due to producers stocking up in anticipation of increased costs and prices. Afterward, as the abnormally increased stocks were worked off, there would naturally be a reaction. If in the meantime nothing had happened to rouse expectations that some degree of revival would endure, the reaction would naturally carry the rate of activity as much below the initial rate as the boom had carried it above. However, while this was occurring, there would be another effect, arising from the fact that the initial increase in prices would not have to be as great as the increase of wage costs, due to the use of inventories bought or produced at earlier and lower prices or costs. This would lead to an increase in consumers' real purchasing power, which would tend to dwindle away as the old inventories were worked off, but would not be followed by a decline below previous levels. The total effect would be a compound of these two elements, plus the intangible element of business confidence. Whether any increase would be left after six months would depend on this intangible element.

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[1] On these points I am indebted to a study by Dr. Eli Ginzberg, of Columbia University, which is shortly to appear in book form.

In the second place, let us assume that prices are not raised by the full amount of increased wage costs, though some increases would presumably be necessary. In other words, let us assume the conditions contemplated by the early policy pronouncements of the NRA. Here the effects already considered would appear in diminished degree, together with an enduring increase in real wage disbursements, at the expense of profit margins per unit of sales. The net effect would depend on the relative magnitude, and also the timing, of the increase in purchases responding to the increased real-wage disbursements and any offsetting decreases resulting from the decreased profit margins per unit of sales. If both wages and profits were spent completely and with equal promptness, the two would offset one another. But since wages are disbursed and spent ahead of profits, there would naturally be a temporary stimulus to physical output, though since the total increase in consumers' spendings comes out of previous increases in wage-cost disbursements, it is hard to see how any increase in physical volume, from such a source, could bring a revival of profits. And the ultimate outcome would depend mainly on the effect on capital outlays.

We may fairly assume that at the time the program is initiated, capital outlays have been less than depreciation for some time and capital equipment has deteriorated. If the shrinkage in demand has not been too severe, and especially if confidence in natural recovery has not disappeared, there are likely to be capital outlays which would soon be made if wages were not increased. An increase in the rate of physical output, taken by itself, might tend to speed them up.[3] But taken in connection with a reduced profit ratio and increased prices of capital goods, the net effect seems more likely to be a decrease in capital outlays below what they would have been if wages had not been increased. This is likely to outweigh the rather thin margin of increase in the wage earners' real spending power, and thus to have a retarding rather than a stimulating effect on recovery.

In 1933, however, the situation was different. There were then vast excesses of productive capacity, relative to the inordinately-shrunken demand, and there was little faith in natural recovery. Under these conditions there was little prospect of early revival of capital outlays if wages were undisturbed. In short, there was probably little to lose on the side of capital outlays, in the immediate future. In fact, one kind of capital outlay, namely, inventories, is closely enough related to current rate of output so that it might respond to this factor, even if profit margins were declining. Thus, in such a special situation, the net effect of wage increases might be stimulative to the rate of physical output at the bottom of a depression. Even here, however, if revival is to go very far, prospective earnings must be sufficient to justify capital outlays beyond the bare minimum which is virtually necessary if the current rate of output is to be handled at all.

It should perhaps not be necessary to note that the mere fact that wages have been raised does not tell us enough to enable us to predict the results at all definitely. The real question is whether they have been raised above what some workers are worth to an employer (in which case unemployment will result). As to rates of profit, the crucial question is the hope of early return to fairly normal levels.

Here, as in the first case, increased prices of capital goods are likely to prove a handicap to the revival of capital outlays. In the capital goods industries the way to recovery would seem to lie in reduced prices rather than in increased wage-cost disbursements. Other difficulties might be mentioned, perhaps especially the dilemma of sectional wage differentials in which the government necessarily becomes embroiled, and of which we have not heard the last.

To sum up, when conditions are as bad as they were in early 1933, increased wages may initiate the first steps of a revival, but the effect is likely to be soon spent unless other forces take up the burden and if other forces are to take up the burden, wage increases must not be carried too far. If they are carried too far they may effectually prevent anything more than a feeble and tentative revival.

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[3] Cf. Kuznets, "Relation Between Capital Goods and Finished Products in the Business Cycle," *Essays in Honor of Wesley Clair Mitchell*, pp. 209-67.

V. Limitation of Hours, to Spread Work

This is hardly a means of stabilizing economic activity, but rather, in the main, a means of distributing the burden of unemployment. If combined with increased wage rates, it becomes a means of distributing the benefit of the increased wage rates so that instead of the same number of workers making increased weekly earnings, a larger number make the same weekly earnings as before. Any effect which the shortening of hours in a depression may have on total physical output is dependent on a balancing of factors too subtle to be assessed theoretically, and probably too obscure to be isolated statistically.

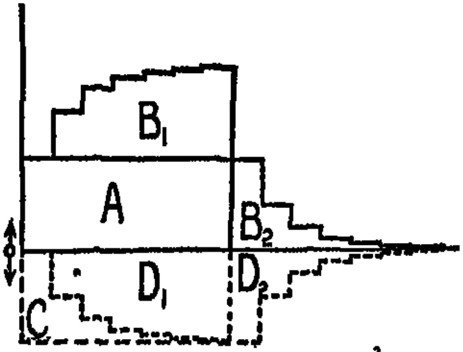
The chief danger is perhaps that of neglecting the distinction between a work-sharing standard of hours and a true optimum working week, which would be longer. The optimum may be taken as the length of working week needed to produce all the output that is worth producing, and work sharing, as a shorter week used to spread out a smaller amount of employment, at a time when we are unable for commercial reasons to produce up to the economic optimum. There is real danger that standards of hours of the work-sharing sort may persist into more normal times, when they will act to limit production to an undesirable extent. Even if the industrial system as a whole does not reach full capacity operation, such limitations of hours are likely to create bottlenecks which will limit total production.

It may perhaps be contended that our capacity to produce increases faster than we know how to assimilate the increase without experiencing the phenomenon spoken of as "overproduction," and lapsing into a depression; and that it is therefore desirable to prevent our productive power from growing too fast, even if this means stopping short of our inherent optimum capacity. This, however, is a doubtful point, and amounts to a confession of defeat which we are, I take it, not yet ready to make. Unless it is established as true, we may fairly assume that it is undesirable to do anything to set artificial limits on our power to produce.

VI. Anticyclical Deficit Spending Intended to be Offset by Surplus Financing during Subsequent Prosperity

This is commonly spoken of as "pump-priming," but it seems that there is need to distinguish two types of possible effects, only one of which really deserves the name of pump-priming. First, such spending may be a stimulus to production, which may be self-multiplying to some extent but not to any significant extent self-perpetuating. In this aspect it may be useful to tide-over a depression *until* other forces initiate a self-sustaining revival. The much discussed "multiplier theory" implies this kind of an effect, and, strictly construed, it implies nothing more.

CHART I



SIMPLIFIED MULTIPLIER DIAGRAM[3]

Vertical dimensions: dollar magnitudes. Horizontal dimension: time.
Area A = public deficit spending.
" B_1 = multiplier effect.
" B_2 = dwindling aftereffects.
" $C + D_1$ = public borrowing.
Areas, D_1, D_2 = deflationary uses of increased income.

Secondly, there is the theory of pump-priming, properly so-called, if one may legitimately build a theory out of the implications of such a term. These implications include the idea that deficit spending can itself start a revival of such a sort that it can go on under its own power after the stimulus of deficit financing has been removed. This distinction seems important.

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[3] This chart is suggestive only. It is too neat and simple to represent accurately any probable facts, but exhibits to the eye (with no claims to accuracy) certain quantities which probably exist, and certain interrelations deserving investigation, to see if their existence is corroborated by the facts. (Further comment added on the occasion of reprinting, 1943: In terms of a balance between saving and investment, the chart traces the effect of an increase of "investment" in increasing income until increments of saving, represented under D_1, and increments of "investment," represented under A, are equal. Then a decrease in "investment" results in decreased income until savings, represented under D_2, decrease by an amount equal to the decrease in "investment." These income-movements are, of course, in money terms, not physical.)

It is my present view that the multiplier theory contains a significant truth (though some formulations need considerable qualification) but that the pump-priming theory, as I have defined it, requires a combination of favorable conditions which are not likely to be found in practice. Our own experience in the Great Depression seems to indicate the power of deficit spending to produce a stimulus, probably greater than itself, and tending to stop when the deficit spending stops or shortly thereafter. But there seems to be no clear indication of enduring effects of the true pump-priming sort. We seem in danger of being committed to continued deficit financing in order to avoid an economic relapse. Let us examine the multiplier theory.

In the first place, its application is not confined to public spending For the purpose in hand, private capital outlays are deficit spending, and carry all the stimulative effects without some of the drawbacks which apply to public deficit spending. My own first consideration of this theory was as an explanation of the expansion phase of a normal business cycle, and had nothing to do with public stimulative spending. It was not concerned to explain cumulative increase so much as why it reaches a limit.[4] In the second place, the multiplier works downward as well as upward, and presumably at about the same rate. This is shown in the accompanying chart, representing orthodox multiplier theory in highly mechanical and simplified form. Vertical dimensions represent money quantities and horizontal dimensions represent time. The area *A* represents public stimulative spendings, continued for a long enough time—presumably more than one year—to allow practically the full "multiplier" effect to come into being. The area B_1 represents this multiplier effect (assuming constant "leakages" of ½ and a multiplier of 2), and the area B_2 represents the dwindling aftereffects which continue after the public spending has stopped. They proceed on a downward curve which exactly reverses the upward curve of the multiplier. This represents what might be expected from a sudden stoppage of the public outlays, unless some stimulus from another source has occurred in the meantime. The recession of 1937-38 has by some been attributed, partly at least, to this kind of an effect, and the provision that the present public works program must be substantially completed by June 30, 1940, would appear calculated to produce what is from this standpoint precisely the wrong effect, when this deadline is reached.

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[4] This occurred about 1930, when Mr. R. F. Kahn must have been working out his formulation, first published in 1931.

This suggests the need of gradual tapering off of public spending. And this seems clearly desirable. But an examination of the geometry of the diagram will show that no mere tapering off will avoid a shrinkage of the total flow of income and spending. It may be mitigated if the leakages decline, and the multiplier correspondingly increases as the revival proceeds (and to some extent this is likely to happen). Or it may be counteracted if in the meantime some private investment spending comes into being, of a sort which is not closely tied to the current rate of consumer spending, and continues unabated after the tapering off of public spending begins. True pump-priming would seem to depend on the development of this kind of private investment. Let us look, then, at the effects of public deficit spending on private investment, this being the crucial factor from the standpoint of enduring effects. As Dr. Copeland has pointed out, public investment has not been able, with all the efforts we have made, to fill the gap created by shortage of private investment. *A free flow of private investment remains a prime requisite of successful policy.*

First, as to inventories. These apparently tend to follow the current rate of output fairly closely, increasing when it increases and decreasing when it decreases, being affected secondarily by the general state of business confidence. Thus the effect of changes in the amount of inventories would be to supplement and intensify the effect of the multiplier, both upward and downward, especially at times when the curve is rising or falling quite rapidly. No important enduring pump-priming effect is to be expected from this source.

The demand for durable capital equipment is affected by the obsolescence of existing units; and this is compounded with the effect of increasing demand for the final product, which may reduce or eliminate the amount of existing excess capacity of standard quality and efficiency. Equipment may be good enough to use for standby purposes or on a part-time basis, while if an increase of demand brought it into use for a larger percentage of the time, it would pay to replace it or modernize it. Hence the demand for durable equipment does not remain at zero until all the existing excess capacity is in use, and then start up suddenly: it begins to rise with any significant increase in the demand for the product it manufactures. Thus public deficit spending, by increasing the demand for consumers goods, would naturally cause some increase in the demand for durable capital equipment; and this increase would come fairly promptly, without waiting for all the existing excess capacity to be called into use.

This effect would be complicated, however, by the effect of the policy on businessmen's expectations as to future demand and especially future net earnings. If they expect the pump to be primed successfully, they will be readier to make long-term investments, and that fact will of itself tend to bring the expectation to pass. But if, on the contrary, they reckon that the current increase in demand for products is due to a temporary stimulus from public spending, and will disappear when this support is removed, this fact will make them slower to make long-term investments, except such as are physically necessary to meet the existing demand. Expectations of this sort will also tend to make themselves come true, and to cause the revival to be of a type which does depend on continuance of the governmental stimulus.

And if businessmen expect the public deficit spending to continue for a long time and in large volume, they will be affected by fear of ultimate impaired public credit, or of "inflation," or if not these, then at least by fear of burdensome taxes in the future. These are all retarding forces. The form of taxes will also have an effect, especially the question whether the system is so arranged that credits due to losses will or will not offset extra taxes due to high earnings. The present system is felt to have the quality of "heads I win, tails you lose," and this affects particularly the more speculative forms of investment. Recently a businessman, presented with opportunities of a speculative sort which would ordinarily appear as good risks, has said: "If we lose, we lose. And if we win, the government will get most of it. I guess we won't go into it." The revival since 1933 appears to have been marked by this kind of conservatism in private investment and to have been correspondingly limited.

One danger which has sometimes been mentioned is that of a progressive absorption of loanable funds, which if it did not lead to inflation might lead to a scarcity of funds for private borrowers when they did come into the market, thus tending to check revival. It has also been noted that this danger does not seem to have materialized in our recent experience. And on the whole it does not seem inherently likely to materialize; as may be illustrated by examining a neglected factor in the multiplier theory itself. The leakages which are responsible for the failure of the multiplier to go on expanding indefinitely themselves represent deflationary uses of income received from the public spendings, and these must, at least in a general way, tend to offset the inflationary effect of the public borrowings. They may not all come directly into the banks as loanable funds, but if they do not do that, they strengthen someone's credit position and thereby are likely to reduce the need of borrowing from the banks in the future.

Returning to the chart, the public borrowings and the deflationary effect of the leakages have been represented in dotted lines below the zero line. For simplicity, the deflationary uses of funds have been shown as offsets to the public borrowings, even though this may be subject to considerable qualification, since they may not all come into the same sectors of the credit market. Thus the rectangle *C* plus D_1 represents the total public borrowing, equal to the deficit spending. The area D_1 represents the deflationary uses of the resulting incomes, and the remaining area, *C*, may be taken (with qualifications already noted) as representing the net inflationary effect on the economic system as a whole. This is a finite quantity equal (in this figure) to twice the amount of deficit spending in one of the periods into which the figure is divided (and which represent the average time required for increased private income to lead to increased spending). So far as this representation can be taken as correct, this is the limit of the net absorption of credit (or of net inflation) for the whole economic system. The area D_2 represents the deflationary uses of what is left of the increased income after the public spending stops. It offsets the net absorption of credit, and leaves the system in an unexpanded state.

There has, however, been an important shift in credit relations. On the assumptions already made, the government owes more money and private individuals less. Whether this is beneficial or not I will not attempt to discuss. And whether this last bit of analysis is justified or not, the fact remains that there is nothing self-limiting about the debt the government is piling up. It goes on increasing without limit. It does not represent a net burden of this amount on the economic system as a whole, but it does represent an obligation on Americans as taxpayers to transfer ever increasing sums to Americans as bondholders; and this can easily reach a point at which it will retard business activity materially; while even before that point is reached, the expectation of it can have a similar retarding effect.

Another retarding effect could occur in case the public spending program is so handled as to result in pegging the prices of construction and construction materials against a decline which might have proved attractive to private investors. Another can occur wherever the public investment which is being made enters into competition with private investment. Where this is the case, one dollar of public capital expenditure can easily scare away several dollars of private capital outlays. Dr. Copeland has shown that the amount of such competitive public investment has been very small, relative to the total; but the amount of private investment it has served to prevent may have been considerably larger.

One possibility seems particularly disquieting; namely, that the total deficit burden may reach a point at which it is doing more to hold business back than the current spending is doing to stimulate it, and still it may be true that the immediate effect of more spending will be a (temporary) stimulus, and the immediate effect of stopping will be a recession. When the total public debt has grown to threatening proportions, current additions will not quickly lift it to a new order of magnitude, and therefore may not make much immediate difference to the apprehensions which constitute the chief discouraging effect of the situation, while the immediate stimulative effect of further public outlays remains. Such a situation, if it comes about, would be almost exactly like that of the victim of a habit forming drug. The parallel is closer than one likes to contemplate.

Various other problems might be briefly mentioned. Sound and justified spending projects cannot be improvised, but must be planned and scrutinized long ahead. The planning which has been done since 1933 has accomplished much, but it probably remains true that public works cannot be gotten under way in large volume promptly enough to check the decline in a depression. Nor is it easy to taper them off promptly when the need for a stimulus decreases. If politically controlled, they are too tempting to those who could use them as political trading stamps or political bribes. And our experience has shown that it is easier for an administration to start Congress on this route than to stop it when it seems to have gone far enough. Our political shortcomings make it extraordinarily difficult for us to use such an anticyclical timing program with the necessary combination of skill, integrity, and backbone. Under these conditions, the fact that we have learned that deficit spending can really stimulate business may be one of the most dangerous results of the depression.

VII. Chronic Depression and Continued Deficit Spending

Most of the possible causes of chronic depression seem to act through a lack of disposition or capacity to spend the full amount of our national income as it is under conditions of reasonably full capacity operation. One way of expressing this is to say that under such conditions there is a tendency for savings out of income from immediate past production to exceed investment in the purchase of the products of current production. For this purpose, savings out of revaluation-income and investment in such things as securities already outstanding should be excluded. The effects of a declining rate of growth of population and of a possible declining rate of expansion of capital requirements register through this basic balance or unbalance.

Regardless of whether such an unbalanced tendency has existed in the past, it may exist in the future. The Brookings study has found it true of the post-War prosperity period; and while the figures are probably inconclusive, and the theory is to that extent unproved, one should be careful not to draw from this the unwarranted conclusion that it has been disproved.[5] The theory has also been criticized on the ground that, if it were true, there should have been a chronic depression during the twenties, instead of an unprecedented burst of prosperity. This criticism is worth examination, but seems on the whole unwarranted. Instead, it seems that, through the action of the investment markets, a discrepancy of the sort we are discussing could easily result in a temporary boom, leading to an ultimate reversal. Let us examine this possibility for a moment.

We may assume that four billion dollars flow into the securities markets seeking investment, while only three billions flow out through the issuance of new securities for the purchase of capital equipment. The natural result is a rise in the prices of outstanding securities. Some of the profits would be taken out to be spent for consumption and some would be reinvested, tending to a continued rise. If this were all, the process would presumably go on until one billion dollars had been taken out for consumption expenditures, after which prices and economic activity would be stabilized. And in the meantime, possibly five billions might have been added to the total market value of securities outstanding.

But this is not all, since people buy stocks on margins, and credit funds as well as savings flow into the markets, thus adding to the original one billion of excess funds seeking investment. Then prices of securities may not be stabilized until two or three billions instead of one billion have been taken out and used for consumption. In that case, an excess of savings would have been converted into an excess of spendings, and production, instead of being depressed or stabilized, would be stimulated. In the meantime, the prices of securities would have been raised to an irrationally high level in terms of prospective earnings, and this process would somewhere reach its limit, after which the whole structure would collapse. At this point I may take refuge in my rôle as a theorist, and leave it to the students of economic behaviour whether this picture bears sufficient resemblance to the facts of the post-War boom and collapse to indicate the probability that it describes a significant causal element.

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[5] The Brookings study does not make the exclusions from savings which I have indicated above.

Immediate future conditions are different. With a market psychology not calculated to sustain a boom, and with margin trading limited by increased margin requirements, the same cause, if it operates, is perhaps more likely to result in chronic depression, possibly temporarily mitigated or neutralized by a more modest stock-market expansion. And this suggests the interesting theoretical query whether controls of the securities markets could be made so delicate as to have, at least temporarily, a neutralizing effect, if that were desired. Into that question I will not go.

If the basic tendency I am discussing exists, public deficit spending can be offset, but not forever, and not in sufficient volume to neutralize any very large shortage of private investment; that is, not without disastrous consequences, defeating the end in view. We have not reached the limit of our debt-bearing power, but we do seem to have reached a point at which the piling up of public deficits is a deterrent to private capital outlays, and probably to a larger extent than further public spending can safely undertake to neutralize. Private investment has not vanished, but it has not fully recovered, especially investments involving considerable risk and looking to a long future. Fears of future deficits and exorbitant taxes awake easily and make revival an unduly sensitive plant. We can stand for this awhile more—preferably with some assurance that the treasury is not to be treated as a bottomless grab bag for pressure-group interests—and provided we are meanwhile making progress toward more enduring adjustments.

The problem might be formulated as one of stimulating investment, or limiting savings (and increasing consumer spendings) or both, the stimulative method being inherently the more promising. We might stimulate investment by methods which would increase profits and also increase savings; and we might limit savings by methods which would drastically reduce inequalities of income and also cripple the flow of investment. If they involved ill-judged increases of wages, they might thereby reduce the volume of employment. Neither of these is a solution, though the second is more clearly destructive than the first. What is needed is adequate incentive to invest, without such large rewards as would bring about a top-heavy scale of income distribution such as might result from high profits, or even from what business now regards as moderate profits on a rapidly increasing per capita investment (which is one of the postulates of our problem). Low interest rates are clearly indicated, but there is fairly wide agreement that this alone is not sufficient.

Wages should be as high as possible without actually reducing employment, and some added distribution of consumer-income out of public funds will probably be a necessity for some time to come, including assisted low-cost housing. Collective bargaining should increase. But business should not be given occasion to fear that government is fastening upon it a protected monopoly, more powerful and burdensome than any "capitalistic" monopoly; namely, a monopoly of organized labor. If grounds for such fears exist, they should be removed.

As to profits, after the lean years we have been through, capital will probably be content to invest on more moderate returns than prevailed before 1929; and it is my belief that it must do so if our system is avoid shipwreck. But some prospective return is required. Taxes can without undue ill effects take enough to reduce materially the investor's remaining margin, but they must not treat gains and losses so unequally that risk-taking is penalized and turned into a virtual certainty of loss. Public utility capital will be forthcoming in adequate volume for lower returns than it has enjoyed in the past, if it knows what to expect—as at present it does not.[6] One thing which might lend important aid would be a reduction of the spread in costs between high-cost and low-cost producers, in order that business might be attractive to investors without the necessity of offering the low-cost producers unnecessarily high rewards, in order that the higher-cost producers may have enough to live on.

On the side of savings, the effects of the social security system on private savings should be studied, as well as the question of revising downwards the existing provisions for reserves, now financed out of pay roll taxes directly burdening the act of employing labor. We have here a powerful instrument for modifying the balance between saving and investment, if deliberately used with that purpose in mind. A tax system capable of raising large revenues from clear net income, without laying heavy burdens on small and smallish incomes, would be another powerful instrument in the right direction. At present, large volumes of tax-exempt securities seem to be an obstacle to a rational system.

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[6] Since the above was written the agreement of the TVA to purchase utility properties has reduced this uncertainty, but not wholly removed it.

Am I proposing a policy based on a stagnation theory which I have stated is unproved? I submit that, regardless of the truth or falsity of any such theory, the general measures I have suggested deserve to be either carried out or searchingly studied. If there is no truth in the stagnation theory, we could select from the proposed program simply those features favorable to liberal profits and optimistic business expectations, and be assured of the release of a flow of dammed up private investment greater than any deficit spending we could afford. The resulting recovery would, of course, end in another depression. And a more balanced policy has the better chances in the long run. In the meantime, we badly need statistics which may furnish better measures of savings, investment, and, so far as possible, potential investment.

To conclude, there is no simple formula, or set of formulas, guaranteed to cure all the irregularities and shortcomings of the system of private enterprise. If we are to keep the system at all, we must expect to put up with a good many of these shortcomings, including some business fluctuations. On the other hand, the operation of the system can be improved, and the fluctuations mitigated, by intelligent action. And it goes without saying that we shall be dissatisfied so long as there are serious shortages of employment, and that we shall be irresistibly moved to tinker with the system. Such tinkering is dangerous; granted. If crudely and impatiently done, we may very easily find that we have, without wishing it, tinkered the system out of existence. But doing nothing is dangerous too. We live in dangerous times. What may reasonably be asked is that, when we tinker, we shall do it with a solemn sense of responsibility and with the utmost foresight humanly possible as to the consequences and their dangers.

CHAPTER VII

Monetary Policy and Investment*

HOWARD S. ELLIS†

"A SOCIETY . . . which saves, can escape a progressive fall in income and investment only through the continuous development of new investment outlets, such as are created by technological progress, the rise of new industries, the discovery of new resources, the opening up of new territory, and the growth of population": thus writes Professor Hansen.[1] In diametrical opposition Professor King believes that "whenever . . . new equipment for producing direct goods is much needed, interest and profit rates rise, and, as a result, we invest more and spend less. Thus adjustments in the direction of equilibrium are always being made. The process is automatic, hence economists have no occasion to worry either about lack of opportunities for investment or about a surplus of funds awaiting investment."[2] It is my conviction that the truth lies between the extremes of these two views, that it is possible to indicate in a general way the resolution of this great divergence, and finally that the solution is essential for any reasonable monetary and economic policy.

Let us consider first saving—I use both this term and investment in an *ex ante* sense. Now the first step in saving—even saving by institutions such as life insurance companies, building and loan societies, corporations, savings banks, and authorities—is the accumulation of money. As matters stand, part of the savings gets no farther: they are absorbed into hoards or dissipated by "attempts to hoard" for the time being. The fruition of saving in investment *is not* "automatic." But *this is not to* agree with the Keynesian tenet that *any* net saving automatically decreases investment and

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[1] Alvin Hansen, *Full Recovery or Stagnation?* (New York, 1938), p. 296.

[2] Willford I. King, "Are We Suffering from Economic Maturity," *Journal of Political Economy*, 48 (October, 1939), 5, 616.

income,[3] nor to agree with Lange that saving over an "optimum rate" has these effects.[4] The original Keynesian version of the impasse, as a number of critics have pointed out,[5] rests upon the assumption of an absolutely elastic schedule of liquidity preference —people are willing to hoard unlimited amounts of money.

Even Lange's more moderate version, whereby the desire to hold money increases with higher incomes and lower interest rates, does not give us an automatic impasse from either cyclical or secular angles through exceeding an optimum propensity to save. The optimum is said to rest upon a counterbalancing of two forces: the expansive force given by a fall of interest rates when people do not spend but instead make a part of the *active circulation available for liquidity* reserves, and a depressive force given to entrepreneur expectations when the demand for consumption goods falls off. For a theory in which all of the variables are operating simultaneously, the expansive force of lower interest rates involves a paradox: output is being expanded through the accumulation of funds being used neither for consumption nor investment. A truly dynamic theory, which dates its variables, conceives of low interest rates as an "expansionary tendency likely to arise during the contraction," in Haberler's phrase, and exercising its actual expansive force later in recovery. The same flaw of simultaneity or timeless variables appears in the supposed depressive force: current investment falls or remains low because current consumption is restricted. But it has been justly observed by Hansen that "*former recoveries have typically been carried forward on* a wave of new investment which was *not* narrowly gauged by the current and immediate level of consumption purchases. Large, bold projects, looking far into the future, have typically been undertaken in the upswing period."[6] Thus though Lange correctly holds that the demand for capital goods derives from consumers goods, the derivation need not be from contemporary consumption.

While the allegedly orthodox view that savings pass automatically into investment cannot be maintained, neither can the doctrinaire oversaving view be supported that saving (either any saving or that exceeding an imagined optimum) automatically fails to arrive at investment or even reduces it. There is nothing automatic, mechanical, or functional about it either way. The more attention comes to be centered upon technical, psychological, and institutional factors which either facilitate or impede the movement of savings into investment, the more rapidly will the theoretical cleavage disappear. A frank, nonpartisan observer readily recognizes that, under sufficiently adverse circumstances, saving not only results in no investment but actually induces contraction through hoards, attempts to hoard, or adverse entrepreneur expectations, but that if these obstacles can be reduced or removed, saving adds to the complement of capital goods.

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[3] J. M. Keynes, *The General Theory of Employment, Interest, and Money* (London, 1936), p. 84.

[4] Oskar Lange, "The Rate of Interest and the Optimum Propensity to Consume," *Economica*, 5 N.S. (February, 1938), 17, 12-32.

[5] *Ibid.*, p. 19: J. R. Hicks, "Mr. Keynes and the Classics," *Econometrica*, 5 (April, 1937), 147-160: Gottfried Haberler, *Prosperity and Depression*, revised ed. (Geneva, 1939), pp 218, 246.

[6] Hansen, *Full Recovery or Stagnation?* p 279, the italics are the author's.

In the acute phases of cyclical depression the strong increase of liquidity preference results in a failure of savings to pass into investment. Looking aside for the time being from measures directed toward encouraging investment, it may be good public policy in protracted depressions to penalize not only that hoarding which springs from the conversion of non-monetary to monetary assets (liquidation) but even that hoarding which comes from current income (saving). To generalize from the cyclical to the secular situation as to fact and policy would, however, be perilous. A progressive and persistent increase of the desire for liquidity, as something subjective, spontaneous, endogenous, and separable from the *objective facts adverse to investment, is difficult to conceive for either* private or institutional savers.[7] Furthermore, secular increase of hoardding of this character would be easy to offset by an even secular increase in money.[8] Measures designed to reduce saving in what is called "secular stagnation" seem to ignore that, even with a certain leakage or loss, savings do pass into investment, and that investment raises incomes. Keynesians agree with orthodox theorists that the greater the complement of capital instruments the higher are real wages. Suppose that a portion of national savings slips persistently into hoards or that persons and institutions constantly attempt to hoard a portion of their savings. Even so, would not a permanent *policy of reducing savings* spell the *perpetuation of supply-reduction* measures appropriate only to the short run, and an attempt to achieve prosperity through scarcity?

One characteristic of cyclical periods of increasing production, quite aside from mechanical reactions envisaged by the older quantity theories, is rising prices from improved anticipations. Voluntary saving has this superiority over expansion solely through credit creation, that it liberates factors without causing their prices to rise, or, alternately, a given amount of credit expansion will go farther in carrying forward employment with the accompaniment of voluntary saving than without it. The driving force of increased production is certainly not saving but factors on the demand side, to which we come in a moment; but voluntary saving supplies the wherewithal for expanding output in the most salutary way.

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[7] Jacob Viner, "Mr. Keynes on the Causes of Unemployment," *Quarterly Journal of Economics*, 51 (November, 1936), 1, 152-160.

[8] Gottfried Haberler, "The Interest Rate and Capital Formation," *Capital Formation and its Elements* (New York: National Industrial Conference Board, 1939), pp. 126-127.

One final observation upon savings. Recent statistical enquiries of Colin Clark and others establish clearly the validity of the emphasis upon income and not interest rates as the chief variable upon which the magnitude of savings depends.[9] This signifies by necessary counter-implication that for a given amount of income, savings are fairly inflexibly determined—by corporation practices, the distribution of income, social mores, and private habits. Public policies directed toward saving itself therefore impinge against particularly stubborn and resistant forces. Consider the present[10] situation with its lethargy of investment, but with its lurking danger of an ultimate war boom of disastrous proportions. If the state introduces measures to alter the deep-seated social, economic, and political determinants of saving, may it not have to reverse its policy and attempt to teach corporations and private persons new habits again in a twelvemonth? Has not Keynes himself illustrated this absurdity in his pronouncements since the outbreak of war?[11] Any so-called "secular" situation is apt to see something happen; long-run or persistent inactivity may be suddenly terminated by cyclical developments. Savings itself is something too inflexible for successful manipulation.

The middle-ground position with respect to saving would run somewhat as follows. Savings are neither automatically transferred to investment nor automatically diverted from investment. The transfer process is conditioned by technical, psychological, and institutional factors of great complexity, probably defying any functional expression. In periods of acute cyclical depression when saving means hoarding, it may, in particular cases, seem advisable to encourage consumption through doles and other measures. Over longer periods showing a lagging pace of investment, increasing the funds available for liquidity reserves would suffice to offset an indigenous increase of desire for liquidity per se; but if, as seems more probable, the obstacles inhere in the demand side, penalizing hoarding would be curing symptoms. Measures to reduce voluntary saving have been supported upon the argument that in less-than-full employment, the potential supply of capital cannot be the limiting factor.[18] But in *this situation the supplies of all factors appear redundant*; and since the historical evidence seems to indicate that revivals have not been based upon rates of current consumption, saving cannot be charged with this redundance. Voluntary saving itself appears as a normal economic function, carrying advantages over alternate provision for expansion; and, unless the state abrogates this function to itself, saving does not lend itself to manipulation. Finally, nothing in this philosophy affords any apology for inequality merely for the sake of saving.

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[9] Colin Clark, *National Income and Outlay* (London, 1937).

[10] The time reference of the present article is to the Autumn of 1939

[11] J. M. Keynes, *New York Times*, November 14, 1939, p. 5.

Before we pass from the supply side of the problem in saving to the demand side in investment, it is necessary to be sure that we have in mind the precise character of the ailment envisaged in current discussions as economic maturity, stagnation, or a contracting economy. We may fall victim to pressing various physical or biological analogies too far, or we may simply be coining new synonyms for depression, bad times, crises, or the "dearth" of Elizabethan times. What specifically is the complaint? Is it chronic underutilization of physical plant, persisting unemployment of labor, low interest rates, low wages and profits, low incomes generally? The question would, of course, not be worth asking if there were not confusion on the subject. Sometimes, for example, the prevalence of very low rates in certain segments of the money market is taken as the earmark of stagnation, and yet it is fairly clear that without unemployment and idle plant we would feel no especial concern over low interest rates. Indeed in theories of equilibrium with less than full employment, low interest rates are the necessary requisite to reaching full employment. Again, are low incomes in general the complaint? Such an answer would be suggested by the term chronic depression, for in cyclical depression incomes are low. But in fact we discover stagnation attributed primarily to societies with large incomes, and the contemporary scene in America is thought to be characterized by a reasonably good level of national income. If low income rates do not constitute stagnation, what does? Economists of all persuasions would agree, I believe, that the current malady

[18] Colin Clark, *op. cit.*, p. 273.

is chiefly the under-utilization of factors. This directs the enquiry to the demand side, and in a society based upon private enterprise, particularly to the demand for capital, or investment.

Obstacles to investment fall into three broad categories— institutional, psychological, and technical.[13] Subsequent analysis will indicate that the technical obstacles are partly unreal and partly pure guesses as to the future; some of the psychological obstacles are unimportant, and those which are serious derive for the most part from institutional factors. We discover the very core of stagnation in rigid prices, monopoly restriction of output, inequality in the distribution of income, difficulties in changing the direction of production including adaptation to certain new, more "social" wants, relatively high levels of interest in some segments of the money market, and, finally, certain political factors—taxes which bear upon enterprise, tariffs and quotas, embargoes on capital movements, expropriation of property, and the like. It is the essence of a synthesizing theory, such as that advanced in these pages, to dispense with analytical elements upon which there prevails complete disagreement, and to utilize elements upon which there is fair accord. Upon this basis, the general oversaving thesis and the doctrine of lacking technological uses of capital will have to go by the boards, but the institutional elements remain as common ground. The term institutional must, however, be conceived broadly, for some of these obstacles reach deep into the foundations of the system of private enterprise or even, according to one school of thought, inevitably characterize the system. Anticipating some subsequent conclusions upon policy, I may say that the synthesizing analysis almost necessarily implies for the present situation a relatively large volume of government investment, though the conservative may wish to insist upon its transitional character.

Certain marginalia seem to be in order concerning the nature of institutional obstacles to full employment and the investment of savings. Rigid wages have often been said to be the very foundation of the Keynesian system.[14] This is indeed true in one sense: Keynes believes it easier as a matter of policy in a society with increasing productivity to allow money wage rates to rise and to prevent commodity prices from falling, than to stabilize money wages and force commodity prices down. Critics have generally missed the point, however, that in his analysis of equilibrium with less than full employment, *rigid wages do not appear in the enumeration of factors* responsible for the situation. For this reason the Keynesian theory *is psychological and technological, but not, at least explicitly, institutional.* It is only necessary to work the explanation of Keynesian policy back into the analysis of unemployment, however, to discover its common ground with traditional theory. The inflexibility of wages downward when other prices generally are falling, or the tendency of strongly organized labor to a successive racheting of wage rates upward in "normal" times, is quite consonant with the orthodox position that, however much a lessening of inequality may be desired, an advance of wages unaccompanied by a parallel increase of productivity will result in unemployment.

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[13] A somewhat similar classification is employed by Gottfried Haberler, "Interest Rate and Capital Formation," *loc cit.*, pp. 123-125. Of course the classification is not hard and fast.

[14] Haberler, *Prosperity and Depression,* 2nd ed., p 235, n. 1, pp. 238-239; W. W. Leontief, "The Fundamental Assumption of Mr. Keynes' Monetary Theory of Unemployment," *Quarterly Journal of Economics,* 51 (November, 1936), 1, 192-198.

The analysis of underemployment must incorporate not only wage rigidity, but it must take full account of monopoly and other price rigidities throughout the system. To have done this in systematic fashion constitutes the great superiority of Myrdal's work on *Monetary Equilibrium* over the Keynesian systems.[15] As a cause of equilibrium with less than full employment, monopoly and monopolistic price policy figure less significantly for their levy upon consumer real income than for their restriction of the field of investment. Labor, capital, and all hired resources tend to be used in the restricted quantities determined by marginal-revenue product and not marginal product.[16] In view of the complete agreement of traditional equilibrium economics, of the older theories of cyclical variation, and of the Keynesian-Stockholm school as to the disequilibrating effect of monopolistic and other rigid prices, I think it safe to ignore the contrary proposition that price rigidities act as "stabilizers." Mr. Hicks succeeds in demonstrating only that if a commodity is initially overpriced, a rise of other prices may reduce disequilibrium and stay the advance of those other prices. He does not consider the case in which an administered price is too high but other prices *fall,*[17] *though it is precisely in depression or stagnation that monopoly* influences are most nefarious! Professor Hansen, the leading proponent of the stagnation thesis in this country, develops the argument with great care against a background of inflexible prices and costs.[18]

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[15] Gunnar Myrdal, *Monetary Equilibrium* (London, 1939), especially Chap. VI.

[16] E. H. Chamberlin, "Monopolistic Competition and the Productivity Theory of Distribution," in *Explorations in Economics* (New York, 1936), pp. 237-250.

[17] J. R. Hicks, *Value and Capital* (Oxford, 1939), pp. 265-268.

The second set of institutional obstacles to investment turns upon extreme inequalities in the distribution of wealth and income. Inequality of wealth permits to only a few the entry into productive enterprises requiring large blocks of capital; it restricts to a few the development of personal capacities of high technical order. Consequently inequality not only springs from but also fosters monopoly. Inequality of income increases the amount of voluntary savings, if institutional obstacles interfere with the flow of savings into investment this aggravates difficulties. It may be noted that this does not constitute savings or inequality per se into the cause of unemployment after the fashion of Rodbertus or Keynes Without monopoly and other institutional interferences to the transfer process, a competitive system endowed with a non-deflationary monetary policy would apparently utilize savings—perhaps not without cyclical interruptions—whether or not they sprang from a humane distribution of income.

I touch briefly upon other institutional obstacles, although the *potency of the aggregate, including price rigidities and inequality,* could account adequately for the existing lethargy of investment. A society enjoying a growth of national income naturally desires to consume in new ways. Being comfortably ensconced in sheltered positions, monopolies do not in general reveal much concern about catering to new wants. This very immobility would tempt the innovator, the true entrepreneur in Schumpeter's *sense; but often* the way is blocked by the necessity of formidable initial outlays upon the "selling costs" of monopolistic competition. The process of changing over to new types of production works against heavy costs, friction, and uncertainties. Furthermore, many fields which seem to be indicated as genuinely corresponding to consumer or public demand have so social or communal a character—hospitals, or slum clearance conjoined with housing projects—that private enterprise has found the conditions of production and demand too complex and unusual. Many of these applications of capital may in the end cover the competitive "opportunity costs," though the state itself for the present has to play the innovator. Much the same appears to be true of certain more risky channels of production already served by private enterprise but suffering under disproportionately high money costs in comparison with safer investments.[19] Moody's triple A rating may be an institution weighing heavily on unorthodox but necessary economic experimenters.

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[18] Hansen, *Full Recovery or Stagnation?* pp. 299-301.

Finally it may be asked whether saving itself and the technical potentialities of investment can be charged with the ruthless thwarting of enterprise which prevails in the fields of foreign investments and international trade? Even an exponent of "Beggar-my-Neighbour Remedies for Unemployment" emphasizes that the conditions necessary for short-run advantages are complex, and that such "remedies" defeat themselves in the long run by provoking retaliation.[20] I do not need to expatiate upon the lets and hindrances to investment involved in some of our domestic policies since these have been sufficiently exposed, frequently with suspicious zeal.

In addition to objective or institutional, there exist also psychological impediments to real capital formation, but few of them arise spontaneously or persist independently. Particularly is this true of liquidity preference. Most hoarding springs not from miserliness but from insufficiently attractive alternatives. If, indeed, accumulation outstrips improvement, there may be a psychological resistance to low interest rates. But if there is no prospect of a reversal of the situation, few potential investors will continue the hunger strike; as Haberler remarks, "After a while even John Bull will become accustomed to 2 per cent or 1 per cent."[21] The same observation holds regarding a possible general abatement in the venturesomeness of entrepreneurs, particularly in large corporations through the spread of professional entrepreneur-manager control divorced from ownership. Eventually the investor would be forced to a recognition of realities: that he cannot eat his cake in the form of conservatism and security and also have it in the form of the high returns to be expected only from assumption of marked risks. For the rest, the so-called "psychological impediments" are not distinguishable from objective conditions. There is no native instinct not to invest, though there is the subjective reflection of difficulties engendered by rigid costs and prices, monopoly, and other "real" factors.

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[19] Robert A. Gordon, "Fiscal Policy as a Factor in Stability," *The Annals of the American Academy of Political and Social Science* (November, 1939), p. 112.

[20] Joan Robinson, "Beggar-my-Neighbour Remedies for Unemployment," *Essays in the Theory of Unemployment* (New York, 1937), pp. 210-231.

[21] Haberler, *Capital Formation, op. cit.*, p. 128.

The third set of obstacles envisaged by the theory of equilibrium with less-than-full employment is supposed to stem from inelasticity or lack of sufficient magnitude in the underlying technological schedule of capital productivity or efficiency. This I believe to be the weakest paragraph in the brief, the least eligible for a synthesizing analysis. In the first place productivity or efficiency pertains only to actual investment—not to saving which bogs down in abortive lacking, losses, hoards or attempts to hoard. There can be no obstacle to investment from the shape or position of the demand function itself; at most it would mean that, if there existed an institutional or psychological floor to interest rates, we should reach equilibrium with less employment than we should with greater elasticity or magnitude in the demand for capital. Eliminating such a floor on the basis of the improbability of continuous absorptions into liquidity reserves,[22] we are bound to conclude that inelasticity or small extent in the capital demand function signifies only low interest rates—not idle men and machines. Some persons in lower income brackets would suffer through reductions in insurance and annuity benefits and the shrinkage of income from endowments; but in general low interest would mean a welcome reduction of inequality and living by owning.

But the alleged inelasticity or limited demand from a technological angle is itself subject to grave doubts. Looking forward, the stagnation theorists have felt gloomy at the prospect of capital-saving inventions. At most this is merely a possibility. Why should it be a gloomy one? Labor-saving inventions like the linotype have sometimes resulted in a greater demand for labor; by the same token, capital-saving improvements may actually increase the demand for capital at given rates of interest. But if demand for capital and interest rates fall, would not the relative and absolute incomes of labor be increased and inequality diminished by its increased relative importance in production? Looking backward, the pessimists have observed, as in the Temporary National Economic Committee hearings on saving and investment,[23] a close correlation of national income and new expenditures upon mining and manufacturing equipment. Since the World War, it is pointed out, capital outlays have gone heavily into "nonbusiness" lines of production—houses, roads, and public works; but because investment has not gone precisely into the narrow category of "mining and manufacturing equipment," even the halcyon twenties fall under the baleful characterization of stagnation prevented only by special circumstances. If we include these non-business capital goods under investment, then the secular stagnation of investment is a matter of one decade, scarcely to be distinguished, so far as we can perceive thus far, from an unusually severe or prolonged cyclical movement.

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[22] This point is made with great clarity by Haberler, *ibid.*, pp. 125-127.

[23] Cf. *Tables and Charts for Use in Hearings on Savings and Investment before the Temporary National Economic Committee*, Securities and Exchange Commission (litho-printed, 1939); and the testimony of Hansen and Currie on May 16, 1939, as given in Releases No. S10 and S12

Why should umbrage fall upon nonbusiness lines of production? Man shall not live by blast furnaces alone. Is there anything more natural than that society should take its increased income in more of durable consumers goods, or eventually also in more non-durable consumers goods and leisure? Is an increase of demand for non-durable consumers goods—an increase in the "propensity to consume" —a way out of stagnation, but an increase in demand for durable consumers goods not? The plain answer is, of course, that employment of labor need not depend upon investment in mining and manufacture. As Professor King insists, "As long as the modal family income in the United States is under $1,000 per year, there certainly is no need to conjure up wants for new and unknown products or to establish new industries in order to find a market for far more goods than our present industries can produce.[24] Residential real estate has shown negative net investment for nearly a decade, according to Kuznets' figures, and there were even minuses in the years 1935 on.[25] If we include durable consumers goods within the pale of investment, potential increases in the demand schedule for capital would appear to be very great. And if we include as possible destinations for increased national income also nondurable consumers goods and personal services, the bogey of lacking technical applications for capital disappears.[26]

The inevitable objection to this sort of argument will be that existing plant, having been constructed upon expectations of continued expansion along the old lines of population growth, etc., now suffers under a dearth of demand. What does it avail to point to the *possibilities of profitable production with a totally recast orientation* of outlets and physical equipment, when it is the obvious necessity that existing plant be profitably employed? I should heartily welcome such a response for actually it contributes to the middle-ground theory, to the truth between extremes, being sought for. The objection makes its contribution in abandoning the thesis of an ultimate or underlying lack of demand for capital goods, and by stressing the inappropriateness of the present supply or stock of instruments. This inappropriateness of present supply is a horse of considerably different color from the Keynesian lack or inelasticity of demand for capital. Actually the situation may be further resolved into its components. Part of existing instruments of a specific sort are worthless —not capital at all; whereas another part of less specific sort has a high potential productivity, because the recasting of production makes heavy demands for new equipment. The realization of this potentiality encounters institutional obstacles in the narrower sense: *rigid costs, monopoly inertia and restriction of the field of investment,* disproportionate risk-loadings outside the gilt-edge security market, and the like. Antitrust measures and plans to increase the availability of credit help, no doubt; but government investment appears to be the most powerful weapon against monopoly prices and wages, and against institutional inertia in general. Whether the system of private enterprise is inherently impotent in the contemporary scene, whether it is itself an institutional obstacle, and whether the entry of government into investment spells socialism—these are questions which will ultimately find their own answers.

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[24] King, *loc. cit.*, p. 617.

[25] Simon Kuznets, *National Income and Capital Formation* (New York, 1937), p. 48; National Bureau of Economic Research, Bul 74 (July, 1939), Table I.

[26] According to Keynesian terminology, anyone who employs labor invests!

In concluding upon the supposed technological obstacles or lack of demand for capital, let us return to a passage quoted at the outset of these remarks: "A society . . . . which saves, can escape a progressive fall in income and employment only through the continuous development of new investment outlets, such as are created by technological progress, the rise of new industries, the discovery of *new resources, the opening up of new territory, and the growth of* population." I disagree. A society which saves can escape a fall in employment and income if it can successfully cope with institutional obstacles; new investment outlets exist in adequate volume in known but unexploited techniques without the necessity of the various creations in the list; and I do not believe that we want those created outlets particularly—in some cases not at all. Technological progress! Is the crying need of economic society today our ineptness in making things? Is agriculture archaic, our commerce unprogressive? Granted that we generically desire to reduce production costs, here, too, we encounter frictions and institutional obstacles. Have we, for example, entirely forgotten about technological unemployment? New industries!

Is the variety and quality of our wares sadly limited? New resources! Do we in the United States chiefly suffer from an inadequacy of natural resources? Territory! Do we too need a Manchuria, Abyssinia, or Czechoslovakia? Growth of population! Do we propose to cure unemployment by encouraging the birth rate? So much emphasis has been laid upon the retardation of population growth rate that some lines written by Hicks deserve repetition: "One cannot repress the thought that perhaps the whole Industrial Revolution of the last two hundred years has been nothing else but a vast secular boom, largely induced by the unparalled rise in population. If this is so, it would help to explain why, as the wisest hold, it has been such a disappointing episode in human history."[27] I do not think it can be gainsaid that technological improvement or population growth eases the savings-investment process, given the institutional obstacles. But the main question is: how do we want to mend matters?

The economic policy based upon the present attempt at finding a middle-ground truth takes up the positive contributions and rejects the extravagancees in both the oversaving and classical positions. Such a policy is not directed toward the reduction of saving nor the conjuring up of created investment outlets; it is directed against those factors which both wings of theoretical opinion envisage as impeding the flow of saving to investment—price rigidities, monopoly, inequality, political obstacles to free private enterprise and initiative. The philosophy is liberal in that it seeks to rehabilitate and perpetuate private enterprise and competition; but it is also radical. In the first place, it accepts extensive government expansion into the field of investment as a means of breaking industrial and labor union monopolies and price rigidities, and as a means of launching production to correspond with the social wants of a relatively high-income country —into slum clearance, hospitals, recreational opportunities, free public education, and the like. In doing so, the state must seek to compete with private, competitive industry directly as little as possible, and it must avoid a ruinous indirect competition through failure to charge to its projects their full opportunity costs in labor, land, and capital.[28] The creation of a separate capital budget for public investments would eliminate the anomaly of charging capital expenditures to current income;[29] on the other hand, since the breaking into monopoly profits might show some handsome returns upon the public ventures, it might be wise to record that fact also. In the second place, inequality of wealth and income must be vastly decreased. Investment opportunities for capital and careers open to the talents must be widely distributed if a system is to be competitive. If business interests adopt an attitude of irreconcilableness, they prolong and intensify unemployment and sew the seed of crack-pot schemes for "30-Thursday," "share the wealth," or social revolution.

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[27] Hicks, *Value and Capital*, p. 302, n. 1.

[28] In this respect the plan of A. A. Berle falls short; cf. "A Banking Sytem for Capital and Capital Credit," TNEC Release No. S11 (May 23, 1939), p. 14.

[29] Cf. Gordon, *loc. cit.*, p. 113.

The role of monetary policy in the indicated direction of public policy is modest but an integral part of the whole. Schemes for curing symptoms by penalizing the holding of cash balances will be rejected, while a policy of easy money is continued so long as investment lags. Since we have the curious combination of idle men and machines as a heritage from the Great Depression and at the same time the possibility of a war boom of large proportions, constant alertness to price-level movements, price differentials, security values, inventories, physical production, and other indices of cyclical variation will continue to be requisite. So far as contributing to the solution of continued unemployment is concerned, the functions of monetary policy, outside the avoidance of a runaway prosperity fever, are two. The banking system can continue and even increase its activity in putting idle savings at the disposal of government investment, assuming that this investment is animated by the purpose of breaking monopoly, cost rigidities, and the inertia of enterprise in directions of public demand. Action by the banking system in this respect is, however, clearly limited by its responsibility for cyclical developments, especially currently in view of the volume of excess reserves. In the second place, carefully articulated plans are not wanting for increasing the availability of credit without heavy risk premia to small enterprises and second- and third-rate credit ratings.[30] The success of such plans depends, of course, upon a rational articulation with monetary policy in general, and with the investment, taxation, relief, and labor policies of the government. Promising lines of attack upon the persistence of unemployment and the lethargy of investment are, however, for the most part beyond the province of the banking system and the monetary authority.

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[30] Cf. L. L. Watkins, *Commercial Banking Reform in the United States* (Ann Arbor, Michigan: Michigan Business Studies, 1938) 8, 5, pp. 56-70, Guy Greer, "America's Greatest Need Today," *Harper's Magazine* (December, 1939), pp. 1-13; Berle, *loc. cit.*

CHAPTER VIII

The Effects on Canada of Industrial Fluctuations in the United States*

R. B. BRYCE[1]

SOME attention must first be given to the nature of the determination of the general levels of incomes, production, prices, and employment. Of course these levels are in some way or other affected by most things under the sun and are, in fact, merely statistical aggregates composed of millions of individual activities and transactions each determined by its circumstances, and all interdependent. Even if one concedes that some grouping is necessary to bring this chaos within the realms of description and analysis, it may still be urged, particularly in Canada and the United States, that regions and industries must be dealt with separately, that we cannot lump together production of wheat, newsprint, and houses and get any results of significance. While recognizing the validity of this contention, it has seemed necessary to use a number of familiar aggregative concepts in this paper.

The level of incomes and of employment in a modern economy is dependent very largely upon what may be called *stimulating forces* or expenditures. Since these economies are rarely operating at capacity, levels of production and employment, as well as of money incomes proper, are able to move in response to changes in aggregate expenditures. Of this aggregate expenditure (which is simply another aspect of income) that large part which consists of expenditure on consumption goods and services, especially non-durable ones, is now considered to be of a relatively passive and stable nature; its magnitude is influenced very largely by that of total income, which implies that it is influenced largely by the other portions of aggregate expenditure. These other portions are expenditures for investment or capital formation within the country (sometimes extended to include consumers'

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[1] It should be stressed that the views expressed or implied in this paper are my personal views and are not in any sense official. Some references have been made in the foot-notes to the discussion which followed the reading of this paper. The writer regrets that there is not fuller record thereof.

expenditure on durable goods), expenditures of foreigners in purchasing exports, visible or invisible, and finally the net expenditures (i.e. from borrowed funds) of government bodies.[2] These three, which we may term briefly investment, export receipts, and deficit-spending, constitute the stimulating expenditures referred to above. This is not to imply that they may not have various indirectly depressing effects, particularly in the long run, but simply that their immediate and tangible influence is to provide domestic income or purchasing power without at the same time giving rise to a product that must be sold immediately to the domestic consumer. Offsetting these stimulating forces are two means of disposing of income which do not directly give rise to domestic income; these are saving and expenditure on imports of foreign goods and services, including interest and dividends payments going abroad.

This short period effect of investment and deficit spending has, of course, been widely recognized in recent years, particularly after Mr. Keynes argued it so well and yet so provocatively. The importance of export receipts in determining income has long been recognized as well, but their equivalence to internal investment in this regard has not been made evident by many writers. To some extent this equivalence has been neglected because theoretical and sometimes even statistical writings on this general subject have so often been concerned either with a hypothetical closed economy or with the United States or England where home investment is relatively more important than in a country such as Canada. Where international relations have been taken into account, the usual practice has been to use the foreign current net balance or "foreign investment" as the equivalent of home investment, perhaps following Mr. Keynes's practice in the *Treatise on Money*. This may be convenient if one is concentrating on capital formation and its relation to saving and consumption, but it is apt to be misleading if one is considering the forces determining income, since it usually suggests that the importance of foreign influences is much less than is in fact the case. Both investment and exports provide income, and both savings and imports absorb it. An increase in exports tends to bring about an increase in incomes, just as much as an increase in investment does; following either there will be a tendency for both saving and imports to increase, subject always to the identical equality of total savings and total investment and to the necessary balance in international payments. While frequently there may be reason to expect that an increase in exports will tend to leak away in imports rather than savings, and an increase in internal investment to leak away in savings rather than in imports, this is not by any means invariably so. Therefore, it seems reasonable, especially in dealing with such an open and loosely articulated economy as Canada's, to consider export income as fully as significant as investment, and the propensity to import as significant as the propensity to save.

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[2] In the discussion on this paper the point was raised by Mr. L. Tarshis that some jusification might be found for treating total expenditures of Governments on the same footing as investment or export income, on grounds somewhat similar to those on which the treatment of exports is considered later in this paper. The writer conceded that it was largely a question of convenience or methodology, as well as, by now, convention, but suggested also that the offsetting factor, the revenue collected by the public authorities, could usually be considered less a "passive" factor than saving or even international debits, and more a matter of budgetary policy.

The relevance of the preceding paragraph will be apparent in comparing the forces in the United States and Canada which make for depression or recovery. The American economy is dependent for its chief stimulus upon internal investment, in comparison with which their foreign income is relatively small. At the peak of prosperity in 1929, American gross capital formation, even if consumers' durable goods be excluded, was about 20 billion dollars, and it fell to about 3 billion dollars in 1932. Gross international receipts on current account were about 7 billion dollars in 1929 and fell to about 2½ billions in 1932. While, therefore, foreign income is by no means a negligible stimulus to the American economy, it is very much less important than investment. Moreover, investment in the United States is itself not dependent to any marked extent on the condition of the export industries. In Canada, on the other hand, gross current receipts on international account in 1929 were nearly 1,800 million dollars, and in 1933 were only about 850 million dollars. Unfortunately we have no estimates of Canadian capital formation, but certainly it did not approach these figures, and seems likely to have been no more than half as much. Therefore, the preponderance of direct stimulus to Canadian incomes has come from abroad. Furthermore, investment in Canada is to a considerable extent itself dependent upon the conditions of, and prospects for, the export industries, so that the degree of our dependence on the export stimulus is greater than might appear at first sight. Of course Canada has also a much higher propensity to import than the United States, and has what may well be a comparable propensity to save. Therefore, the marginal propensity to consume domestic products, and the multiplier which relates the total increase in national income to the increased stimulus afforded by investment or international income, are probably less in Canada than in the United States, especially as long as our foreign exchange rates remain fairly stable. In Canada the leakage of income to imports is apt to be as great and perhaps greater than the leakage to savings, while in the United States the import leakage is very much less. Naturally the multiplier will depend on all sorts of circumstances and upon the nature and incidence of the addition to income to which it applies, but the foregoing generalization seems warranted.

The general economic contours of the last two decades in Canada and the United States are surprisingly similar. Not only do the two show very largely the same general direction of movement at about the same time, but the amplitude of the movement is also roughly the same. The commonly used indexes of business activity frequently understate this similarity. To some extent the broad movements have been common to other countries as well—the immediate post-war boom, its rapid collapse and the decline of 1920-1, the fairly quick recovery thereafter, the fairly high level of employment and production from 1926 to 1929, then the disastrous decline till 1932, recovery from 1933 till 1937, recession and revival since. These have been international phenomena, and although individual countries show many variations and exceptions it is possible to detect a common pattern. It is hardly surprising that Canada, exposed as she is to foreign influences, should follow this pattern. It is strange that the United States should adhere to it so closely, since we know that the state of her economy depends very largely on domestic factors. Perhaps it is true that the United States largely determines that common pattern, but it would be difficult to prove this. Her trade, outside this continent, is only a modest fraction of world trade.

The existence of this international pattern, whatever its explanation, makes it difficult to separate the influence of American movements on Canada. For example, the major movements in our exports to the United States have generally been accompanied by similar movements in our other exports. Thus, the mere similarity in movement of our economic indexes with those in the United States is not conclusive evidence of its predominant influence. And we are entitled to be a little sceptical when we realize that only about 40 or 45 per cent of our international receipts on current account, excluding gold, came from the United States.

Another fact which shows the complex nature of our dependence on the United States is that in several instances where we might have behaved less like her, to judge from conditions in other countries, we followed the American pattern because of reasons not directly connected with the United States. For example, in 1924 we suffered a slight recession, as did the United States, despite the fact that the demand for our exports abroad increased. Our recession appears to have been due not to the minute decline in our exports to the United States but rather to a more substantial decline in investment and to a poor wheat crop. Similarly in 1929 we reached a peak of prosperity despite a serious fall in our exports to countries other than the United States, but again our behaviour cannot be attributed to the 2 per cent increase in exports to the prosperous United States, but rather to a combination of high levels of both private and public capital expenditure. Finally, our only moderate recovery in the middle 1930's, which made us resemble the United States rather than England, Sweden, or Australia, was probably due less to a lag in our current income from the United States, which recovered as much as our other receipts, than it was to a combination of other factors including the depressed construction industry at home, the droughts in the West, and the fact that the great expansion of British income and consumption to much above pre-depression levels was not accompanied by a corresponding expansion in the value of British imports.

We must, then, be on our guard against assuming that the United States has a clearly preponderant influence on Canada, as one might plausibly assume from a superficial glance at economic indexes and the map. Bearing this in mind we may turn now to a more detailed consideration of American influences, first on our current international receipts and second on our capital formation.

The magnitude of Canada's current receipts from the United States is great enough to have a really substantial direct influence on Canadian income and business activity, whatever the indirect effects of this might be. Leaving gold exports out of account, since demand for gold is not subject to economic conditions abroad except quite indirectly, Canada received on the average in the four prosperous years 1926-9 a gross income from abroad of about 1,700 million dollars, out of a total national income of about 5,400 million dollars. Of this 1,700 million in international receipts, slightly more than 700 million came from the United States either in payment for exports or as tourist expenditures. In comparison, similar receipts from the United Kingdom were about 400 million dollars.

In their general movements our receipts from the United States have followed the course of their national income, but the relative amount of their variation has been greater than the variation in income itself. This is rather to be expected both from the nature of the goods and services supplied, and from the intensification of protection of domestic producers during time of depression. The total value of imports from all countries into the United States during the prosperous period 1923-9 fluctuated only between 5.0 and 5.8 per cent of the national income, and Canada supplied between 10 and 12 per cent of this. In the depression the ratio of imports fell to about 3½ per cent of national income, largely because prices of imports fell relatively to other things, but Canada's share of American imports, despite tariff changes, increased slightly to remain almost exactly 13 per cent during the years of decline. During recovery the ratio of imports to national income rose to 4.6 per cent in 1937. Canada's share rose during 1934, 1935, and 1936 but fell back to 13 per cent in 1937, as imports from other countries rose in that year. Incidentally the ratio of American imports to national income fell in 1938 to the lowest level since the war, largely owing to the using up of inventories of previously imported material, e.g. newsprint. It should be noted that the physical volume of general American imports had fully recovered by 1936 and 1937 to the level prior to the depression and that it was the low level of their prices relative to other prices that accounted for the lower ratio to national income. This is true of some of their imports from Canada, such as newsprint and fish.

We have already noted that the fluctuations in Canadian exports to the United States have been accompanied in general by similar fluctuations in other Canadian exports so that it is difficult to distinguish their separate influences upon total Canadian income. On the whole, Canadian national income does respond fairly quickly to changes in income from exports, except at times when movements of investment counteract it, as in 1929. The ratio of national income to international receipts does, however, show some variation. Using the estimates of gross national income produced, as given by the Bank of Nova Scotia, we find that gross international receipts, excluding gold, composed about 35 per cent of the national income in 1925. The ratio had risen to this maximum from a low point of 26 per cent in the 1921 slump. From 1925 it declined again to only 29 per cent in 1929, reflecting the fact that rising national income was being stimulated by a high level of investment. The proportion dropped to 24 per cent during the depression, then rose again to 33 per cent in 1936-7, despite the fact that gold is excluded, and wheat exports were so low. Thus we are still as much at the mercy of foreign demand as we were before the depression.

Turning to look at the nature and behaviour of our various exports to the United States, we find that the principal one is the tourist trade. The aggregate receipts from tourists entering from the United States is greater than the value of all our exports of forest products to that country. It grew rapidly from about 150 million dollars in 1924 to nearly 300 million in 1929, equal to about 60 per cent of the value of our merchandise exports to the United States. Falling off less rapidly than exports proper, perhaps because it cannot readily be subjected to tariffs or quotas, it finally slumped nearly as much proportionately, amounting to slightly more than 100 million dollars in 1933. By 1937 it had recovered very nearly all it had lost, indeed substantially more when allowance is made for lower prices. During the past three years it has amounted, on the average, to more than 75 per cent of the value of our merchandise exports to the United States. While some of these tourists entering from the United States may ultimately have come from elsewhere, this hardly seems likely to have been a large fraction of the total. If we compare these Canadian figures with the estimates given for total expenditures by American tourists abroad, we find the proportion of tourist expenditure coming to Canada was higher during the depression than previously, except for the single year 1933. This proportion in 1935, 1936, and 1937 was nearly half, whereas before the depression it was only about a third. It is interesting to observe that American tourist expenditure, particularly in Canada, did not fall off quite as rapidly as American national income in 1930, 1931, and 1932, but, at least in Canada, the decline between 1937 and 1938 was much more rapid than that in income, suggesting that our tourist trade is getting more sensitive to business conditions as it grows.

Our merchandise exports to the United States consist of about one-half forest products, mainly, of course, newsprint and wood pulp, with lumber an important item when building is active in the United States. The other half includes mainly agricultural products and non-ferrous metals, largely nickel, plus a host of minor items. In general it may be said that the rapidly rising trend of newsprint exports was set back moderately in volume by the Great Depression, but that the weak price structure gave way and the value of these exports declined drastically and has shown only a partial recovery despite a volume of exports in 1936 and 1937 much above pre-depression levels. Lumber exports have naturally followed the course of building in the United States rather than business in general; as a consequence they showed a long steady decline to very low levels in 1933 and 1934 and only a modest recovery since, despite a fairly full recovery in prices. We have relatively only small exports of other capital goods except nickel and copper. The collapse of American investment after 1929 brought a drastic decline in these exports. Copper exports to the United States were further depressed and largely prevented from recovering very much by the imposition of a tariff in 1932. Nickel exports, however, recovered rapidly to much above pre-depression levels by 1936, despite the incomplete recovery of capital formation in the United States, but their drastic fall in 1938 suggests they are still sensitive to this factor. Exports of both grain products and livestock declined enormously in the depression and recovered since—but these movements have probably been due more to tariff changes and drought, and consequent price variations, than to the influence of industrial fluctuations.

It may be noted here that the shift from grain products to base metals, which characterizes Canadian exports to other countries over the past decade, does not show up in our exports to the United States. This is probably due not so much to the failure of investment to recover in the United States as it is to the copper tariff and the drought.

It is not proposed to go into the regional aspects of our trade relations with the United States but one point seems of relevance. Canadian exports to the United States, especially those whose value is most subject to the influence of business conditions there, come rather largely from Ontario and Quebec, to a less extent from the Maritimes and British Columbia, and only to a small extent from the prairie. Even the tourist trade appears to have somewhat this character. Since Ontario and Quebec in turn supply less stimulus to activity in the other regions than *vice versa,* it follows that the effects on Canada of American business fluctuations are apt to be less well diversified than, say, the effects of fluctuations in the European demand for our wheat.

American influences on Canadian international receipts are not confined to those which affect our direct trade. One indirect influence is the part played by American conditions in determining income in third countries, particularly Great Britain. While by no means negligible, I believe this influence is frequently over-rated and that while

American events may have much to do with the *timing* of British changes, they have not a preponderant influence, even indirectly, upon the general movements. British exports to the United States constituted only about 6 per cent of all British exports in 1929 and 1937. Of the rest of the Empire, only Malaya and to a much less extent India export substantial amounts to the United States, while British exports to Malaya are only about 2 per cent of all British exports. Looking at the course of British business since the war, one does not find much evidence of direct influence of American conditions, though there may be substantial indirect influences, such as the role played by American foreign lending in the middle twenties, and her role in the great slump of 1929-32. The most significant movement in England has been her strong recovery from 1932 to 1937, and this was very largely dependent on internal stimuli, though it was undoubtedly aided by the cheapness of raw material imports. Until rearmament, it seems to have depended very largely on the building boom, on the delayed modernization of British industry and internal trade, and on the opportunities presented by the new protectionist policy and the growth of cartels. In none of these have American influences played much part.

A more significant indirect influence on Canada would appear to have come by way of the effects of American conditions on commodity prices, particularly prices of farm products and raw materials. In the cases of lead, zinc, and copper prices, in which Canada is interested, American demand, in conjunction with her domestic supplies, has probably been an important determinant, though her influence in this field seems to have been declining, particularly as armament demands in Europe became more important in the last few years.[8] As regards export prices of farm products, particularly wheat, the situation is more complex. The role of the United States in the international agricultural crisis is not clear; she certainly shared in it and contributed to it, but her responsibility for it, in its international aspects, seems to have been no greater than that of many other countries. Some will blame her for not having been willing to import enough goods in exchange during the twenties, perhaps without recognizing the really substantial difficulties inherent in an economy built upon a long-standing protectionist policy when a country becomes a great creditor practically over-night. Later, in the recovery period, American factors probably served to strengthen agricultural prices for a time, thereby assisting Canadian exports to third countries, but these factors were principally drought and government action rather than industrial fluctuations. Possibly in a negative way American industrial conditions are continuing to depress agricultural prices because until prosperity develops in town there is no alternative for the American farmer except to continue to contribute to the world's surplus of wheat and of cotton, and indirectly to weaken other farm prices as well.

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[8] It should perhaps be added that by influencing other raw material prices the United States probably has some influence (how much is a very difficult question) on the course or economic fluctuation in raw material producing countries, and thus, perhaps, as Professor Bowley suggests, very significantly, on Britain (and Canada). This is an intricate subject which invites analysis.

When one turns to consider the influence of American conditions upon investment, it is much more difficult to find facts and figures to back up one's opinions. It is on this aspect of the problem that one would welcome the critical judgment of business men themselves. Nevertheless it seems worth while to hazard a few general statements.

First, one must recognize that in providing a demand for certain exports the United States thereby directly induces at times substantial investments in Canada. The pulp and paper industry in the 1920's is an obvious example. Here too we should probably include both public and private investment to take care of the tourist trade. This has served, in recent years, to justify large expenditures on road building that have been a by no means negligible influence in sustaining incomes and employment. The material is not readily available on which to estimate just what part this factor has played in our post-war fluctuations, but the two examples given indicate its importance at least to several regions in both our more active periods.

More broadly, all the influences exerted on our current international receipts, and thereby, in multiplied form, on our national income, contribute to the determination of our capital formation. Although economic theory and analysis are not able to throw a great deal of light on this crucial problem of the determination of investment, it does seem fairly certain that the level and nature of the national real income itself is one of the major factors influencing the incentive to invest. It is not only that when business is good, plants are working close to capacity, and there are more openings for extensions, improvements, and change. The principal form of influence is not, I believe, that of the so-called "relation" or "acceleration principle," in which it is supposed that the amount of investment going on is chiefly dependent on the rate of increase of output generally, or of consumption. Both these factors are operative no doubt, but ther are other less tangible but no less real channels of influence. A great deal of investment nowadays is made directly out of corporate savings. When business is active and profits are high, they will be devoted in substantial amounts to this internal investment. When profits are lower, dividends will absorb a larger fraction of them and managements will be less ready to presume to dispose of the shareholders' funds. Individual business men and investors, too, have more money with which they are ready to gamble when times are good. Moreover, as Mr. Keynes and many others have pointed out, we all are apt to weigh current conditions unduly heavily in guessing what the future will bring We have so little real evidence for guessing what things will be like ten years from now that we naturally assume they will be like the present except where we have evidence to the contrary. It is only reasonable that we should tend to err on the side of optimism in good times and pessimism in bad.

It is essentially this dependence of investment on current incomes, and thus to some degree on itself, that provides the basis for many of the cumulative forces which enter into the business cycle. Once the rate of investment begins to move in one direction or the other, it affects income in such a way as to justify to some degree that initial movement and to induce a further change in the same direction.

An important consequence of this is that in Canada our well-being is even more dependent on exports than at first appears to be the case. Current international receipts constitute the chief direct determinant of our national income. They not only have secondary effects by way of the multiplier, thus increasing domestic consumption expenditure, but their influence being already so great means that they are the major element in determining investment itself. Their effect in this regard may be counteracted by other forces, or may be delayed, as appears to have been the case in the twenties when the major increases in investment did not come until some years after the increases in export incomes. This lag, I believe, is commonly accepted as a partial explanation of the observed lag of import movements behind those of exports in relatively new countries which depend for their major stimulus upon export incomes. That it does not always hold, however, seems evident from our experience in the last year or two when investment appears to have declined as soon as, and more drastically than, export income. Of course, as our great need of the stimulus of export incomes is recognized, it is only natural that business should attempt to forecast both the decline in exports *and its effects. Hence our mere dependence on export incomes would* be enough to make our markets and incomes turn down or up in sympathy with those in the countries to which we export, even before the effects on our current international receipts became evident.

American conditions have, of course, a more direct influence on Canadian investment than by way of their substantial effect on current incomes. For one thing our security markets move very much in sympathy with American markets. Even without statistical analysis, observation of the course of government bond-yields and of stock prices, especially industrials, indicates a substantial similarity of movement both over a period of years and in shorter periods. The same thing shows up more directly in the interest with which financial circles in Canada follow the American markets. This sort of influence *seems apt to be more important now when so much attention is* devoted to the general swings of the market rather than to the relative movements of individual securities. Furthermore, in recent years European news has been a potent factor in security market behaviour. Inasmuch as a great deal of our news from Europe, and the comment on it, come by way of America, it is only to be expected that the Canadian reactions to it should be somewhat similar to those in the United States.

The extensive holding by Americans of Canadian securities and by Canadians of American securities and the readiness of investors to shift from one to the other, help to explain the similarity in market behaviour. Even though the prospects for Canadian business might justify different movements in the prices of its securities, this is apt to be offset by the general belief both that our business is likely to be affected by theirs and that our market is apt to move similarly anyway. Furthermore it may often be necessary to sell Canadian securities in order to protect one's position in American securities.

More significant, probably, in the long run is the contagious nature of American business and financial opinion, to which we are continually exposed. British observers claim that American business opinion is always far to unanimous, and that more divergence of interpretation of events is to be found in Britain and Europe. The relatively wider short-period swings in American security prices necessary to find holders for all of them is cited as presumptive evidence for this view. Perhaps Canada is only too ready to share in this unanimity. It is easy to do so now that statistical services are so widely used, now that the same general information is available to most traders and business men, and the methods and possibilities of analysis are fairly uniform. Apart from the information itself, we are *constantly in touch with* American sentiment by way of newspapers, radio, periodicals, and personal contacts. It is very difficult for us to avoid feeling optimistic when they do, and depressed when they feel depressed.

This contagion of spirit works on a wider field than just the stock market. Direct investment by corporations and by small businesses is affected by it. These are also affected by the experience of both Canadians and Americans in the American markets It is difficult to get published evidence on this sort of thing, but I have run across instances where a bad spell on the New York market has indefinitely delayed the private financing of a Canadian project, and I am sure that business people could cite many examples. We are dependent in one way or another on the United States for a good deal of our "venture capital" in the industrial field. If capital in that country is on the defensive, we suffer too.

An important aspect of this question is our dependence on American sources for much of our technological advance. While in certain fields we have done a great deal of pioneering ourselves, for example, in the treatment of ores and the processing of other primary products, it is fair to say that we have benefited enormously in the past from research and testing and the development of new products in the United States. A great many of our industrial firms are connected in one way or another with American corporations, and make use of their processes, patents, and research. This has enabled us, in Professor Innis's famous phrase, "to apply mature technique to virgin natural resources," with fruitful results. Delectable as this may be, it does involve certain dangers, quite apart from any question of exhausting those resources. Chief among these dangers is the fact that we have to wait until American capital is prepared to undertake innovations before we can get the advantage of the investment they involve. In so far as technology and novelty set the pace not only of progress, but of prosperity, we must perforce keep in some sort of step with our neighbour.

This dependence on American technology and sentiment makes it important to recall that many American economists now feel that the problem of this generation in the United States is not so much that of the business cycle, which was essentially the problem of the century before the Great War, but rather it that of obtaining a sufficient volume of capital creation to reach and maintain full employment and to avoid the dangers of secular stagnation. This tendency to a chronic deficiency of investment arises, they say, from the decline in the rate of population growth in the United States and Western Europe alike, and the virtual end of new settlement in the United States, and to some extent throughout the world, leaving technical progress the sole major stimulus to capital formation. They remind us that technical progress has proved herself a fickle jade in this role before. Possibly these Cassandras underestimate the long-run effects of declining interest rates, especially the less publicized local rates, and the enormous acceleration of technological development in recent decades. Their arguments apply with less force to Canada, for our rate of population growth will probably fall only slowly for some decades; we still have a frontier which needs consolidation, and we have a large outlet for our savings available in the repatriation of our debt and Canadian assets owned abroad.[4] Our prosperity will continue to depend for its major stimulus on our income from other countries, on our strategic position in world trade. But in so far as this modern view is correct in regard to the United States, it suggests that if Canadian opportunities are to be realized, investment in this country may have to become more independent of American conditions and sentiment than heretofore.

Another channel of influence on investment must be noted. The relative prices of investment and consumption goods is of material consequence in determining the volume of capital formation. For example, it has been said that high prices of capital goods compared to consumption goods have impeded recovery in the United States, and that a widening of this spread in 1936 and 1937 was an important factor checking construction and other investment at that time. While Canadian building costs, among capital goods prices, can hardly be closely related to those in the United States, the prices of iron and steel and their products, of which we import a great deal from the United States, are probably influenced to a considerable extent by price policies of American industries. A fair similarity of movement in iron and steel prices is noticeable, at least in recent years. Thus it is not only on the side of demand but also on that of supply that our investment is likely to be subject to the influence of American fluctuations.

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[4] Considerable discussion took place on this point concerning repatriation as an "investment" outlet, in the economists' sense. It was argued that the purchase of securities from foreigners, while it may be a means of disposing of capital, does not itself provide domestic incomes, as investment does. The writer replied to the effect that repatriation offered a relatively riskless opportunity for "foreign investment" and that this indirectly served as a stimulus to domestic activity through encouraging exports and hindering imports. The medium of this influence under modern conditions was apt to be the exchange rate (under gold standard conditions it would be relative price and cost levels) which would probably be lowered, or held down, by the demand for foreign exchange for repatriation of securities.

So far it is the influence on investment in fixed capital that has been discussed. Investment in working capital, the building up or working down of inventories, is a major factor in the business cycle, particularly in the timing of its turning points and the rapidity of advance or decline. Unfortunately there is very little reliable information on this in Canada, and it is difficult to attempt to relate it to American conditions. Data on American inventory movements have been inadequate, at least until lately, but Dr. Kuznets's figures extending back to 1919, and more up-to-date estimates of Dun and Bradstreet, indicate the wide fluctuations in this sensitive element of capital formation. It would seem reasonable to suppose that the same sort of fluctuations occur in Canada and that they would be subject to somewhat similar influences as those in the United States. Nevertheless, the relatively smoother course of Canadian business indexes, after correction for seasonal variation, suggests that inventory movements are a less significant factor here. Lack of knowledge of what actually goes on makes it difficult to say any more on this short-term investment.

It is difficult to draw precise conclusions from this review of the major channels of influence of American business conditions on those in Canada. Broadly it would appear that the effects by way of trade are real and substantial, but not so preponderant that they could not be outweighed or substantially counteracted by movements in our trade with other countries. On the other hand, the influences by way of investment are more indirect and intangible, but no less effective. In part, they rest on a belief in themselves, on a belief that the dependence of Canadian business and finance on the United States is more complete than really is the case. The similar course of business in the two countries during the past fifteen or twenty years affords some basis for that belief. But I suggest that in part this similarity has been, if not accidental, then at least a result of unusually universal conditions, and that it is not at all impossible to picture a fair divergence between the course of business in the two countries. If that should come about, it might itself reduce somewhat the dependence of our investment on American conditions, and thus reinforce itself.

CHAPTER IX

Some Aspects of the Problem of Full Employment*

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THE purpose of this paper is to raise issues and provoke discussion, *not to* present a blue print. Although war-time experience has contributed much to the education of economists, I suspect there are few who would be dogmatic about whether, or how, full employment can be maintained after the war. The problem is not entirely and indeed may not even be mainly one of economic analysis. The most important question may be a social or political one, viz whether the desire for full employment is so compelling that people will be willing to subordinate personal and group interests sufficiently to achieve it.

War-time developments have emphasized how far Canada was from full utilization of its resources during the thirties. In August, 1939, after nearly a decade of struggle against mass unemployment, we now know there were *still* more than *half* a million Canadians who were unemployed. In addition, many were working on short time, or were being supported in concealed unemployment on farms, and many farmers were on relief. Since then, the gainfully occupied have increased from 3.7 million to about 5.1 million, including the armed forces. In addition, our capital equipment has been increased, new skills have been developed, and new production techniques have been worked out under the forced draught of war. The indications are that full employment of all who really want to work after the war will probably involve jobs for about 4.7 million people, or one million more than in 1939, and a volume of production perhaps 50 per cent greater than the pre-war level.

The present full employment results from a virtually unlimited community demand for war-useful goods and services, planned and administered by the federal government. Including the armed forces, about 1,900,000 people are now engaged in meeting this special and centralized demand. When it falls off our task will be to find other

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jobs for the people in question, and markets for the things they produce. These markets will depend, not primarily on the decisions of one government, but on the diverse circumstances and decisions of millions of individuals, and the over-all market for our output will have to be developed to a level some 50 per cent greater than before the war if full employment is going to be maintained. The magnitude of this problem is obvious. It will be discussed here under the three main categories of exports, capital development at home, and domestic consumption.

I

In the past, nearly one-third of Canada's total output has been sold to other countries. The export market has been an unstable one, and fluctuations in it have been a major factor in all our booms and depressions. However, the specialization made possible by foreign trade has substantially increased the productivity of our labour and has resulted in a higher average standard of living than we would otherwise have had. So far as it is open to us, expanding our prewar external market is clearly one of the best ways of meeting part of our post-war employment problem.

In the case of many of our potential customers, the difficulty will be to find means of paying for Canadian goods. We can broaden the market for our exports by supporting efforts to promote suitable international monetary and trade arrangements. We must also contemplate extending export credits on our own, or investing abroad. However, past experience with international lending indicates that little private financing of this type can be expected. Even in the case of government schemes, there will probably be practical limits to the amount of international debt which Canada or the borrowing countries would allow to accumulate. In the long run, therefore, we must be prepared to import on a scale corresponding to our exports.

However, the scope of our export market is also subject to factors which are beyond Canadian influence. If our chief customers fail to achieve a high level of employment, or if they adopt policies of self-sufficiency, Canadian exports and employment will suffer. If actual sales by our specialized export industries fall short of what we are counting on, the resulting structural unemployment will be particularly difficult to deal with. Surplus capacity in the case of the wheat or the fishing industry, for example, cannot be quickly turned to other uses.

Some may suggest that our propensity to import will also be a limiting factor—that a vigorous expansionist policy might result in our imports outstripping our exports—that its domestic stimulus would be correspondingly reduced—and that the accompanying depletion of exchange reserves might impair confidence. In fact, however, it does not seem likely that import leakages will prove to be a serious obstacle. One must assume that international agreement will be reached upon ways in which a country's imports can be held within its capacity to pay, without forcing it to resort to deflationary internal policies.

Despite their critical importance, the external factors which Professor Knox has outlined[1] must be largely ignored in the remainder of this paper. Its function is to discuss some domestic aspects of the long-run employment problem. Even if the international environment is favourable, however, positive domestic policies will be required to maintain full employment. A 50 per cent increase in our pre-war exports would bring them to little more than half the present level of $3¼ billion a year. If our post-war exports do not reach a satisfactory level, the same kind of domestic policies will need to be applied, but all the more vigorously.

I should add that this paper is not concerned with the problems of the immediate post-war period. While the armed forces and war industry are being demobilized and war plants are being converted to peace-time use, there will probably be considerable temporary unemployment in spite of the fact that highly inflationary conditions may still exist in certain parts of the economy. Nor shall I attempt to deal with the structural changes which may be required, probably in some export lines as well as in connection with the conversion of war industry. The decisions which will have to be made in this regard will be of the greatest difficulty and long-run importance. We may have to choose between a relatively low but stable standard of living in a more self-sufficient economy, and a living standard which would be potentially higher but less certain of attainment and involving larger fluctuations in employment. If structural changes become necessary on a large scale, the process will be long and painful, and will probably entail a considerable degree of governmental assistance and control in the industries affected. Such dislocations could, however, be greatly reduced by appropriate domestic full employment policies. These could help to provide alternative jobs for the people who were having to shift. They could prevent unavoidable temporary losses of income and employment from becoming cumulative and starting a full scale depression.

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[1] F. A. Knox, "Some Aspects of Canada's Post-war Export Problem," *Canadian Journal of Economics and Political Science*, August, 1944.

II

In turning to the second source from which increased demand and employment may come, viz. capital development within Canada, one point needs to be emphasized. The great increase in the value of our output since 1939 has led many to believe that the problem of production no longer exists, that we can soon look forward to an average Canadian family income of something like $3,000 or $4,000 a year at present prices. In fact, this will not be possible until we have made great further additions to our capital equipment and improvements in our production technique. I have already suggested that under conditions of post-war full employment we might expect total output to be 50 per cent greater than before the war. This may be optimistic. But even if it is realized, it would not suffice to raise the average income of family heads to $2,000 a year and of single workers to $900 a year, at present prices. The need for rapid and continuous increase in our productive capacity is therefore obvious. In particular, these figures emphasize the desirability of promoting expansion of our productive plant and equipment, and our housing.

The traditional method of stimulating private capital development is by lowering interest rates. Recent experience indicates that reducing the cost of money is not likely to have a major positive influence upon capital investment decisions. The prospect of a profitable market for the output of the additional capacity in question is clearly more important. Nevertheless, the possibility of high or fluctuating money rates would be a deterrent and assurance of low and stable rates would facilitate capital development. The effectiveness of a low interest rate policy would, of course, depend on how widely and strongly it extended beyond the limits of the government bond market. It would probably be most helpful in the field of residential housing, where uncertainty about the market is less important and where interest is an appreciable factor in total cost. Even in the case of housing, however, the extent to which other costs could be reduced would probably prove to be the decisive factor in stimulating and maintaining a large volume of building.

In some cases it is the availability of capital or credit, rather than the rate of interest, which is in question. Small producers, particularly where they do not have an established local connection, frequently find difficulty in financing capital development. Nevertheless, such projects may be sound and highly desirable from the point of view of promoting fuller employment, higher production, and a better balance between large and small business. As a number of other countries have already decided, there is a strong case for government to supplement the activities of existing financial institutions in this respect.

While good monetary and credit policies can help, tax policy probably offers more scope for effective encouragement of capital expansion. Here we face the fundamental problem of how to raise a large amount of revenue fairly, without at the same time penalizing efficiency and success. The problem is difficult enough in all conscience, but many countries, including Canada, have been led, largely by the necessities of war, into a corporate tax structure which greatly aggravates this situation. In so far as corporations distribute their earnings they are, to the economist, simply intermediaries in the distribution of income to individuals, and from this point of view it is not *desirable to tax such income as it passes through corporate hands.* It is particularly unfortunate that taxes on corporation income should result in heavy double taxation of the earnings of risk capital, while the return from fixed-interest investment is taxed only once, in the hands of the individual. Any real attempt, after the war, to encourage risk-taking capital expenditure must seek to remove the discrimination against it which is involved in taxing corporate income as such.

The logical approach to this problem is exemplified in the income tax law of the United Kingdom. Under that law, the whole income of corporations is subject to taxation at the standard rate (22½-30 per cent before the war and now 50 per cent), but individual shareholders receive a corresponding credit against their personal income tax liability when dividends are paid out. Even though under this system the corporate tax is not of great importance, firms are also allowed to offset losses against profits over a reasonable period of time. In addition, the British government has announced special postwar tax incentives to encourage new capital development and replacement expenditures.

I have suggested that after the war taxation should be concentrated so far as possible not upon corporate intermediaries but upon ultimate individual recipients, where greater equity can be achieved. As against this view, it is sometimes proposed that taxation should be used as a means of combating monopolistic or restrictive practices—that some form of excess profits tax should become a permanent part of our tax system. In few cases, however, can the degree of exploitation be measured by the net profit rate. An exorbitant margin on sales does not necessarily mean an abnormally high net profit. Large mark-ups can be dissipated by inefficient operation, or by unproductive expenditures designed to protect a monopoly position. On the other hand, taxation of large net profits as such might seriously penalize efficient firms in industries which were highly competitive. Over any extended period it would undoubtedly check industrial progress.

A permanent excess profits tax would also be extraordinarily difficult to design and administer fairly as between different industries in a changing and expanding economy. War-time experience has shown what complications there are in determining the amount of capital employed by a firm. To lay down standard rates of profit for various industries, differentiated according to the risk involved, would require still more arbitrary judgments. It is worth noting that the present Australian government, which two and a half years ago gave notice that it would impose a war-time tax along these lines, subsequently decided it was not practical to do so even as a temporary measure. There is no occasion here to enlarge on the monopoly problem, important though it is, but I would suggest, however, that the task of control requires too much exercise of discretion and judgment to be satisfactorily handled under a general tax law.

Although low financing costs and fair tax treatment for risk capital would help to promote private capital development, the prospects of an expanding market will clearly be the most important influence. This in turn will depend greatly on technical progress in the industry concerned. Invention of new products which the public will obviously want to buy provides a sure basis for capital expansion, and similarly with development of techniques for improving or cheapening existing products and thus broadening their market. Unfortunately Canadian industry is handicapped in this respect. Modern scientific and industrial research cannot be tackled successfully on a small scale, and many of our big firms depend for it upon parent companies abroad. Before the war, expenditure on scientific and industrial research in Canada (including both government and private) totalled only about $3 million a year. On a per capita basis it was about one-tenth of corresponding expenditures in the United States or Russia. A small country like Canada could not hope to cover the whole research field adequately but could legitimately expect to be in the forefront where our natural resources provide us with special interests. Government expenditure for this purpose would probably produce results, in terms of increased employment and a higher standard of living, which would be out of all proportion to the amount involved. This applies, of course, to resource conservation, and to primary as well as secondary industry.

Government can also make a major contribution to industrial expansion over the long run by raising the level of general and technical education. It is often said that the best investment any community can make is in the education of its citizens. Year by year it becomes more essential to put this principle into practice in an aggressive and imaginative way. Technical progress emphasizes the danger of dependence upon exhaustible natural resources for our competitive advantage. In the future we shall have to depend more on the quality of our working force. Adequate facilities for the training, placement, and transfer of workers will also be very important.

III

I have suggested several ways in which government can help to promote employment by removing barriers, or giving positive stimulus, to private capital expansion. However, there is pretty general agreement that this factor alone cannot fill the whole of the post-war employment gap. The Advisory Committee on Reconstruction have estimated that under conditions of full employment Canadian corporations and individuals would save about \$1½ billion each year. Any such estimate must necessarily be rough, but it gives some idea of the order of magnitude which is involved. Assuming this is approximately correct, full employment could only be maintained if total capital expenditures were to reach similar magnitude each year. If they fell short, employment and income would inevitably decline until saving was forced down to the point at which it could be offset by the current, and probably reduced, volume of physical investment.

By way of comparison with the above-mentioned figure, it may be noted that even the tremendously rapid industrial expansion which has taken place during the war has not involved more than \$1 billion of capital expenditure on plant, equipment, and housing in any one year. This includes both private and public expenditure. Taken together, they have been a less important factor in offsetting saving and providing full employment than our transfers of goods to other countries under Mutual Aid. In the light of the comparative figures just given, there does not seem to be the slightest chance that private capital expenditure alone will be large enough, year after year, to offset the saving which would be produced by full employment. Broadly speaking, there are two methods by which government can try to prevent unemployment developing out of this situation: (1)

it can accept the saving and spending habits of the community as it finds them, and seek to fill in the gap by means of capital expenditures on government account; (2) it can try to narrow the gap by adopting policies which will reduce the community's propensity to save, and increase its tendency to spend for consumption purposes.

If the employment gap were merely cyclical in character, and relatively small on average, the first of these two methods might be sufficient by itself. Direct government investment is generally accepted as a method of dealing with cyclical unemployment. In theory, at any rate, it can be concentrated in periods when private capital development is cyclically low—and reduced if and when signs of inflation appear.

However, it may be that private investment, even at its highest points, will fall well short of the level required for full employment. In other words we may face a tendency toward secular or chronic, as well as cyclical, unemployment. No one can be sure at the present time whether, or to what extent, this will be the case. Major uncertainties have already been mentioned regarding our export outlets, and the possible need for structural change. It is also impossible to forecast the degree of confidence and enterprise which business will show under what may be largely unfamiliar conditions. The record since 1929, however, gives no ground for optimism. After ten years of depression nearly 20 per cent of our labour capacity was still idle. External conditions were not solely responsible, and even if they had been, we cannot assume they will improve so much after the war as to carry us automatically to full employment.

On the one hand, we must probably count on our propensity to save being greater than it was in the thirties. The feeling of insecurity created during that period will not be quickly forgotten. In addition, war financing campaigns have had to develop and extend the normal instinct to save. Finally, if full employment is to be maintained after the war, real income will be far higher than in the thirties, and this will raise the proportion of total income which is saved. It is true that individual and corporate holdings of cash and readily marketable securities have increased greatly during the war, and this degree of liquidity may partly offset the increased tendency to save. On balance, however, it would appear that in the absence of measures such as those discussed in Section V below, gross saving might well approach the previously mentioned estimate of $1½ billion a year under full employment conditions.

On the other hand, there is small chance of private capital development reaching a level which, even in peak years, would absorb such a volume of saving. The so-called "mature economy" thesis has often been over-stated. However, it seems only reasonable to expect that opportunities for capital investment will be relatively less than they were when territorial expansion and growth of population were important factors, as well as rapid technological progress which is what we have mainly to depend upon now. In any case, there is no practical evidence at this time of developments which would require anything like $1½ billions of capital per year. A recent *Financial Post* survey[2] of firms accounting for about 60 per cent of manufacturing industry indicates that their immediate post-war capital expenditure on fixed assets might average slightly more than $100 million a year, or about 1/15 of the figure mentioned above. Electric power is a heavy capital-using industry, but its total pre-war investment in fixed assets was less than $1½ billion. One year's saving at this level would more than cover the cost of all residential housing built in the twenty years from 1918 to 1937, or would cover nearly half the total fixed capital investment in Canadian railways. Although comparisons of this sort should not be pushed too far they do indicate how little chance there is in the foreseeable future that private capital expansion will come close to absorbing the volume of saving which would be produced by full employment.

It must be admitted that there is an inevitable bias in our thinking on this problem, because we cannot visualize the new developments which will undoubtedly take place but which as yet cast no shadow before. The point is, however, that even if these occur on a very large scale, they may still be a minor factor in relation to our propensity to save. Even the building of a new industry comparable to the pre-war automobile industry would absorb less than three weeks' saving at the rate of $1½ billion a year. Our trouble is not so much under-investment as over-saving. Under present conditions financial saving proceeds more or less independently of opportunities for capital development, and seems to have got seriously out of line with it.

It is true that in the immediate post-war years inventory accumulation will substantially supplement private investment in fixed assets. Over the long run, however, this cannot be of major assistance in filling the gap. It is also true that in theory there are almost unlimited outlets abroad for Canadian saving, and this may well be an important factor in the early years after the war. As already suggested, however, international lending does not seem likely to be a

[2] *Jobs for Tomorrow* (Toronto, 1944).

large continuing offset to our saving. There are obvious obstacles to an indefinite accumulation of international debt and international gifts have yet to establish their practicability as a normal peace-time measure.

The available evidence, therefore, suggests that we shall have to deal with a tendency toward secular as well as cyclical unemployment after the war. Not only the general public, but economists, tacitly admit this when they speak so universally of full employment, and not merely stable employment, as a goal. If this is the case, direct government capital expenditure may not be enough in itself to fill in the whole of the employment gap, and additional methods of providing employment must be sought.

IV

Undoubtedly a large backlog of urgently needed public investment has been built up, e.g. deferred maintenance and improvement of highways and other transport facilities, construction of hospitals and other public health projects, rural electrification and certain natural resource programmes. Government provision of some types of housing might also be included. In addition there would be projects which, though postponable, were generally considered to be useful and desirable in themselves. This category would include, for example, public buildings of various kinds; projects for the development and conservation of natural resources, such as reforestation, geological surveys and scientific prospecting, northern development, soil conservation, flood control and development of power sites; projects for sanitation facilities, recreation facilities, and so forth. There will probably be other types of public investment not hitherto explored to any extent in this country which will come to be considered just as useful as anything else upon which we could employ our resources. Over a period of time, huge amounts can undoubtedly be spent on public investment, but there is no use overlooking the very real planning and administrative obstacles which will stand in the way of rapidly achieving a large volume of expenditure.

First, there is the question of constitutional jurisdiction. Where the federal government participates, it will in most cases have to reach agreement with a provincial, and sometimes also a municipal government before planning can usefully proceed. There are also obvious political difficulties in allocating large projects between various regions of the country or between specific localities within those regions. Even when geography dictates the decision, as in the case of the St. Lawrence waterway, the numerous interests affected by any large development must be taken into account and time allowed for long delays. Then, after the basic decisions have been made, an enormous number of man-hours of detailed technical planning are needed before the blue prints are ready. In the case of many resource conservation and exploration projects, the scale of operations will also depend on how quickly our universities can build up a large body of men with the required scientific training.

In mentioning these practical limiting factors there is no thought of deprecating public investment as a means of promoting employment. It must obviously constitute a large and indispensable part of any adequate full employment programme. Just because of its importance, however, it is necessary to emphasize the time lags involved and the enormous amount of preparatory work required. If these factors were disregarded, either public investment would be severely limited in volume or it would be in danger of becoming discredited by sketchy planning, inefficient execution, and resort to projects whose chief or sole value was that they kept people busy.

Even in the long run it must be recognized that the scope for public investment is not unlimited. As the programme proceeds and the best ideas are used up, it will become harder to plan new projects which are useful and desirable in themselves, and not merely devices to provide employment. At any given time there is a point beyond which the majority of the community would consider further projects to be a wasteful use of resources. While they might support additional projects beyond this margin if they were the only alternative to unemployment, they would prefer the labour and materials in question to be used to provide a greater production and distribution of things which consumers want For example, more automobiles might be preferred to a third or fourth trans-Canada highway. Higher minimum standards of food and clothing might be preferable to provision of still more recreation facilities.

It would, of course, be possible to evade this limitation by extending public investment into fields now occupied by private business. For the most part, however, this would not help to close the employment gap, as government investment would simply be replacing private investment. There might even be a considerable net loss of employment if extension of the sphere of public investment scared off private investment in other industries where government was not yet prepared to replace it, or led to general business retrenchment.

The conclusion is that public investment should not be expected to fill the whole employment gap, and that policies designed to reduce saving and increase our propensity to consume will also be necessary. However, it should be noted that raising the tendency to consume does not necessarily reduce the absolute level of capital investment. If full employment cannot be maintained without positive measures to promote consumption, these may well lead to a higher absolute volume of investment than would otherwise take place. I suspect there is unconscious resistance within all of us to an idea so counter to the principles on which we were brought up. To put the proposition crudely, however, we can eat our cake and have it too so long as there is idle capacity in the kitchen which can be adapted to cake production.

V

How could government go about increasing our propensity to consume? An obvious first step would be to discourage unnecessary saving by providing a basic minimum amount of insurance protection against the major hazards of life such as illness or disability, early death or destitute old age, unemployment, crop failure, or unduly low prices for primary products. Over and above this minimum of protection, people would, of course, be free to provide in their own way for any additional security which they felt necessary. Assurance to everyone of a basic minimum would, however, increase the tendency to spend among those who, because they lack facilities for pooling of risks, are at present saving too much.

People with very low incomes could not in practice pay more than part of the necessary premiums. To the extent to which their payments fell short, the insurance scheme would constitute a welfare programme, and in so far as it was paid for by others would involve some direct redistribution of the national income from above-average to low income groups. This in itself would tend to increase aggregate consumption. For although we do not know as much as we should about the spending and saving habits of people in various occupations and income groups, there is no doubt that on average the lower one's income the greater proportion which is spent for immediate consumption. Redistribution from higher to lower income groups would also tend to make the volume of consumption, and the national income, less subject to sudden decline. More would be spent on basic necessities such as food, clothing, and shelter, as distinct from luxury items where the demand is more postponable.

The principle of direct and continuous redistribution of income has been in operation in Canada for many years in the form, for example, of old-age pensions, mothers' allowances, and unemployment relief. It is true that these measures were adopted for humanitarian or social reasons rather than for the purpose of increasing and stabilizing consumption and employment. Similarly, present day social security proposals are not usually put forward solely or even mainly as an economic proposition. In judging of their desirability or otherwise, however, and in deciding upon the scale of benefits which should be adopted, full account should be taken of the additional employment which they promote, and the increased level and stability of income, among high as well as low income groups. It is sometimes said that social security will be impossible without full employment. It would be more correct to say that full employment may be impossible without adequate social security expenditures.

The net employment-creating effect of any given measure to redistribute income and promote consumption[8] would, of course, depend on the extent of its community support. If important groups were strongly opposed to it they might nullify its stimulus to employment through abnormal reduction of their own consumption or investment outlays. It would therefore be essential to limit redistribution of income measures to those linked with welfare or other objectives which commanded widespread public support for reasons of social policy. Nevertheless, it must also be recognized that without a considerable extension of such measures, the attempt to maintain full employment will probably involve pushing public investment to an extreme which many would not be prepared to support either.

The relative amount of social security or public investment expenditure needed in order to provide a given volume of employment is naturally a matter of great practical interest. Theoretically the answer involves comparing the sums of two convergent infinite series, which depend, *inter alia,* on the marginal propensity to save in capital goods and consumers' goods industries, and the marginal propensity to save, if any, of the immediate recipients of social security benefits. On the basis of any reasonable assumptions which are likely to be made in this regard, social security payments would provide more total man-hours of employment than the same amount of expenditure on public investment. Put in another way, social security payments cause a more marked redistribution of income than public investment expenditure, and therefore do not have to be initiated on as large a scale in order to promote a given increase in aggregate spending. In practice, the social security method of promoting employment would give greater assurance of continued stimulus, and for this reason also would be more effective. The comparative effects on business confidence would be another important element in the calculation of relative cost. From most points of view social security would appear to be more consistent with the maintenance of a predominantly private enterprise economy than public investment on a very large scale. Even if social security were more disturbing to business than large scale public investment, however, this would not be likely to outweigh the other considerations which indicate that social security would provide more total employment per unit of financial cost.

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[8] Social security (including family allowance) expenditure is taken as the typical case but such measures would also include, for example, subsidies or the reduction of taxes on the consumption of staple commodities.

In comparing the two methods of filling the employment gap, it is worth noting that social security has the advantage from an administrative point of view. While the administrative problems involved would not be simple, particularly where benefits were to be in kind rather than cash, these benefits would be provided in accordance with definite legislative rules, and relatively little jurisdiction over the day-to-day affairs of individuals or businesses would be involved. Only in small part, however, could the day-to-day operation of a public investment programme be governed by rules laid down in advance. Much would have to be left for arbitrary decision by government and the administrative organization.

In opposition to extension of social security measures in Canada it is sometimes argued that they would handicap our export industry in the vital task of expanding or even retaining its pre-war markets. This would be a valid objection if social security were financed even in part by contributions from corporations. As already suggested in connection with general taxation, however, this would be neither necessary nor logical. Contributions should not be levied on corporate intermediaries, but apportioned directly among individuals, who are the ultimate recipients of all income, on the basis of their ability to pay. Exporters' apprehensions about social security may also be based on the view that it would raise labour costs, but on the other hand trade unions have shown concern lest it might have the effect of reducing or holding down wage rates.

More generally it may be argued that extension of social security schemes would impair the initiative of those who directly benefit. Depression experience has shown, however, that helpless insecurity or idleness is not an adequate or effective stimulus to individual effort. Nor is employment on "make-work" projects calculated to promote morale or initiative. On the other hand, no one would suggest that those men who now face the supreme test overseas will display less courage or initiative because they can count on a moderate degree of security for their dependents. It is obviously quite the reverse. Indeed, under modern conditions where few can meet their own basic needs with their own hands, it may be that a certain minimum security of income will encourage people to face the changes and take the risks which are necessary for rapid economic progress. Social security would also provide more equality of opportunity. No one can tell what new sources of initiative and productivity this might uncover, particularly if educational standards were being raised at the same time. Every community will probably have a few horrible examples of people who would misuse, or be harmed by, social security. But broad policies should not be determined by their effect upon a negligible minority.

VI

The danger of affecting the initiative of people with medium or large incomes is more serious. It would probably arise from public investment just as much as from social security schemes, since the former would probably require at least as much expenditure as the latter to provide a given amount of employment, and the repercussions on national income and government revenue would be much the same. The danger would be that progressive income and inheritance taxes might be carried too far, or that debt charges might rise to a level which caused apprehension about future tax burdens. Even if full employment can be maintained after the war the average standard of living in Canada will not be high in any absolute sense of the term. A rapid increase in our productivity is needed. This will depend greatly on the efforts of people who have better than average ability and energy, and who thus tend to have better than average income or wealth. Therefore we can ill afford to discourage people in this group. But, the danger of discouragement would arise only in part from the method of financing. It would clearly be unwise to aggravate the danger by unduly restrictive taxation or borrowing policies, but less restrictive methods of financing would also have their disadvantages, as will be indicated below. Indeed some among the group in question would be apprehensive not about the method of financing, but about the fact that large public investment or social security expenditures were undertaken at all.

Surely this is a case where hard-headed appraisal of long-run interest is required. Employment-creating expenditures increase and protect the income of the wealthy as well as the poor. No group in the community could be sure of its position if unemployment emerged and remained on a large scale after the war. With few exceptions the lot of the individual and of his children is bound up with the economic and social stability of the community as a whole. The inescapable conclusion is that intelligently conceived and executed full employment policies are a good business proposition for those who, *in the first instance, contribute* as *well* as *those who, in the first* instance, benefit.

The *precise way in which* a *given* programme of social security and public investment should be financed could not, of course, be laid down in advance of the event. Presumably there would be little point in financing it entirely by taxation if unemployment existed or threatened on an important scale. There would also be little danger in borrowing from the public, when necessary, so long as net debt charges were not increasing more, proportionately, than national income or taxable capacity. But just how much should be paid for at any given time by taxes, how much by borrowing from the public and how much by borrowing from banks, i.e. by creating new money, would necessarily be a matter for judgment. There is no rule of thumb to go by.

During the latter part of the depression the volume of money was increased by more than $600 millions in the process of financing government expenditures, without causing inflation. During the war, the volume of money has been increased by a further $2,250 million. Under war-time conditions this would certainly have touched off inflation if numerous direct controls had not at the same time been imposed. The inflationary effect of a given post-war increase in the *volume of money would naturally* depend on how far the desire for liquidity might be increasing or decreasing at the time, as well as *on the extent of surplus productive capacity available.*

This paper has dealt only with some of the problems of promoting full employment, not with those *which are involved in preventing* full employment from developing into inflation. But such problems cannot be ignored in considering methods of financing. In general, it may be said that the more new money there is created in the process of reaching full employment, the more likely it is that inflation will eventually result or that widespread direct controls of the war-time variety will be needed to hold it in check. Once in existence an excessive volume of money could not be quickly reduced, and persons or corporations with substantial cash balances would be largely immune to control by the indirect methods of interest rate, credit, and tax policy. If they became over-optimistic as the result of a cyclical upswing, or began to lose confidence in the value of the monetary unit, there would be no effective way of preventing inflation except by direct controls.

In practice, therefore, any judgment as to how government expenditures ought to be financed must strike a balance between the following considerations: (1) unduly heavy taxes have a restrictive effect upon consumption and capital development; (2) borrowing from the public is less restrictive but if carried to extremes may set up restrictively large debt charges; (3) borrowing from banks, i.e. creating new money, is not restrictive at all but if carried too far will probably necessitate much heavier taxation and direct controls later on in order to prevent inflation at that stage. The proper balance could only be determined in the light of circumstances at the time and would be subject to alteration as conditions and prospects changed. It is hardly necessary to add that successful financing as well as planning of full employment policies after the war will depend very greatly upon the character of the federal-provincial arrangements which can be made.

VII

So far this discussion has centred upon certain major things which government could do to create conditions favourable to full employment. But the support and co-operation of producer groups will also be extremely important. Full employment policies will constitute a temptation not only to monopolies but to all strong and well organized producer interests. The temptation will be to raise prices and limit output, rather than struggle to reduce costs and increase the volume of production. If producers were to concentrate on exploiting rather than developing the market and if full employment policies were pressed to an extreme, there would be rapid progress toward inflation as one group after another levered up its income without increasing its productivity, and levied the cost on consumers. It is more probable, however, that such tactics would frustrate government efforts to promote full employment, and would result in stagnation.

There is particular danger of this happening in the immediate post-war period when many things, especially in the durable category, will be in short supply, and when for a time there will be a sellers' market. If producers take the line of least resistance, and instead of trying to get down war-swollen costs, charge whatever is needed to cover them, they may lose export markets and choke off expansion of their domestic business as well. In the case of housing, for example, costs which were already high before the war have increased substantially during the war period. Without a considerable reduction in costs, through increased efficiency, it is hard to see how this industry could make its proper contribution to full employment. In some cases such as this it might be justifiable for government to assist in lowering costs by underwriting large long-term contracts for standardized components, thus guaranteeing the volume required for cheap production. Obviously, however, no matter how much government might help along these lines, the main responsibility for reducing costs and increasing efficiency and volume must rest with the producers concerned.

In this paper I have discussed the need for promoting employment after the war by: (1) measures to remove barriers or provide stimulus to private capital development; (2) public investment in projects which are useful or desirable in themselves; (3) social security or other measures to stimulate consumption.

In view of the probable magnitude of the post-war employment gap, the question of priority does not seem very important. The indications are that all three approaches will need to be developed just as far as public opinion and planning and administrative machinery make it feasible.

If the case for social security has been given disproportionate emphasis, this is because it has so far received less than adequate recognition as a method of creating employment—and one which is probably more effective than public investment in terms of financial cost. It is true that social security expenditures do not leave bricks and mortar to show in government balance sheets. Their effect is seen in a higher standard of living, and better people, and there is practical value for every group in the community in the economic and social stability which result.

This paper has necessarily been confined to some of the more controllable factors in our post-war situation. The actual level of employment at any time will, of course, always depend greatly on the level of our exports. If external conditions are not favourable we shall face the need for painful structural adjustments, and even bolder application of the policies considered here.

Part Three

RATE OF INTEREST

CHAPTER X

The Structure of Interest Rates*

F. A. LUTZ†

IT HAS long been customary in works on the theory of interest to talk about *the* interest rate, and to deal with the problem of the difference between rates on different maturities by adding a footnote to the effect that the author understands by *the* interest rate the whole "family" of interest rates. Although the incompleteness of this kind of treatment was generally recognized, it was not regarded as an essential defect of the theory, because it was assumed that the whole "family" of interest rates moved up and down together, and that furthermore there was a tendency towards equalization of the different rates. The wide discrepancy between long and short rates which is at present observable, and which has existed ever since the middle of 1932 (apart from a short period during the banking crisis), has shown once again that these assumptions are not always borne out by the facts. The last few years have therefore seen new attempts to find out what determines the relationship between long and short interest rates. The present article tries to set out the theory of this relationship and to verify it so far as possible by reference to the facts.

I

In our approach to the problem of the relation between long and short-term rates, we shall start out, in this first section, by making three assumptions: (1) everybody concerned knows what the future short-term rates will be, i.e. there is accurate forecasting in the market; (2) there are no costs of investment, either for lenders or for borrowers; (3) there is complete shiftability for lenders as well as for borrowers. The lender who wants to invest for, say, ten years is equally well prepared to buy a ten-year bond or to lend on a one-year contract and to re-lend ten times. Similarly, a lender who wants to invest for only one year is in principle prepared to

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buy a ten-year bond or a bond of any other maturity and sell it again after the first year. The same shiftability is assumed for the borrower.

Under these assumptions we can set out the following propositions as to the relationship between short and long rates:

(1) We can conceive of the long-term rate as a sort of average of the future short-term rates.[1] If we neglected the compound interest factor, it would be a simple arithmetic average. If we take account of that factor, the formula is more complicated.[2] The arithmetic average can, however, be used as a sufficiently close approximation for most purposes. The character of the long rate as an average of the future short rates can also be seen from the table on page 147, which shows short rates for successive years together with the yields in the same years for bonds with various maturities.

From the property of the long-term rate as the average of the future short rates propositions (2) to (5) below follow:

(2) The long rate can never fluctuate as widely as the short rate. All future changes in the short rate are already reflected in the present long rate, and the lapse of time which makes these changes in the short rate materialize affects the long rate only to the extent to which the average of these short rates becomes higher or lower by the vanishing of one short rate after the other into the past. (Compare, for instance, the movement of the yield of a perpetual bond with the movement of short-term rates, as shown in the table.)

(3) It is possible that the long rate may move temporarily

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[1] This has been pointed out by many authors. Cf. Irving Fisher, *The Theory of Interest*, 1930, p 70; W. W. Riefler, *Money Rates and Money Markets in the United States*, 1930, p. 121; F. R. Macaulay, *Some Theoretical Problems Suggested by the Movement of Interest Rates, Bond Yields and Stock Prices in the United States since 1856*, 1938, p. 29; R. G. Hawtrey, *A Century of Bank Rate*, 1938, p. 149; J. B. Williams, *The Theory of Investment Value*, 1938, p. 60; J. R. Hicks, *Value and Capital*, 1939, p. 145.

[2] The exact formula, where R_n stands for the long rate on a loan which is repaid after n unit periods, r_1 for the short rate in period 1, r_2 for the short rate in period 2, etc., is

$$R_n = \frac{(1+r_1)(1+r_2)\ldots(1+r_n)-1}{(1+r_2)(1+r_3)\ldots(1+r_n)+(1+r_3)\ldots(1+r_n)+\ldots+(1+r_n)+1}$$

This formula is based on the assumption that the long term interest payments are made regularly at the same intervals as those at which the short rate is paid.

For a simpler formula, which is exact only for the case where all the interest on the long-term loan is paid out at the end of the loan transaction, see Hicks, op. cit., p. 145. (Cf. also Lindahl, *Money and Capital*, p. 188n. The latter's interpretation of the conditions under which the formula is valid is not quite accurate.)

Short and Long Interest Rates and Bond Prices*

I	II	III	IV	V	VI	VII	VIII
Year	"Short" Rates (for One Year) in Years Indicated in Col. I.	5% Bond Redeemable at Par at End of Year Indicated in Col. I.		Yield on Perpetual 5% Bond (at Beginning of Year Indicated in Col. I)	Prices of Bonds at Beginning of Year Indicated in Col. I		
		Yield to Redemption (at Beginning of First Year)	Price		Bond with 4 Years or More to Run	3-Year Bond	2-Year Bond
	%	%		%			
1	5	5	100	5 22	95 821	96.606	99.101
2	6	5.48	99 10	5 23	95 612	96.436	99 057
3	8	6.23	96 61	5.19	96 349	97.222	(100)
4	6	6.17	95.82	5.05	99 057	(100)	
5	5	5.92	95.82	5.00	100		
All following years	5	5.22†	95.82†	5.00	100		

*The calculations are based on the assumption of *annual* interest payments

†Perpetual bond.

contrariwise to the short rate. The long rate would rise, in spite of a simultaneous fall in the short rate, if the preceding short rate was lower than the average of the succeeding short rates, and *vice versa*. If we use the arithmetic average as the first approximation, it can easily be seen that this is so. If, for instance, the short rates in three successive years are four per cent, three per cent, and eight per cent, respectively, the yield on a bond redeemable at the end of the third year will be five per cent in the first year and will rise to five and one-half per cent in the second year, in spite of the fall in the short rate from the first to the second year.

(4) Turning now from the movement of the rates over time to the structure of the rates at a given moment of time, we see that the current yield to redemption of a long-term bond will be above the current short rate, provided the average of the future short rates up to the maturity date of the bond is above the current short rate (and *vice versa*). Such a situation also indicates that the long rate will rise later on, since the average of the short rates is bound to go up when the prevailing low short rate has passed by.

We can depict the yields to redemption, at a given date, of bonds of different maturities by drawing a graph in which the yields are plotted along the vertical axis and the redemption dates along the horizontal axis. We can, of course, obtain curves of all kinds as we assume different movements of future short-term rates. However, I will list here only a few possible patterns which are of practical significance, as we shall see later.

It is obvious that yields for bonds of different maturities will all be the same, i.e. the curve will be a straight line, if future short rates do not change. If the future short rates move in such a way that each successive short rate is above the average of the preceding ones (this condition, it may be noted, allows the short rate to fall temporarily at some point in the future without bringing about a kink in the curve), we obtain a scale of yields which is steadily ascending. The curve will, of course, flatten out if the short rates settle down at an unchanging level from a certain point onwards. In the reverse case, we obtain a scale which descends with the increasing length of the maturities and flattens out later. Finally, we obtain a scale of yields which first goes up with the increasing length of the maturities, and then goes down again when the short rates fall below the average of the preceding short rates. This is the case depicted in the table on page 147. (See columns II and III.) If we do not know the future short rates, but have a series of yields for bonds of different maturities, we can calculate from this the implied future short rates.[8]

(5) It is evident that the return on an investment for a given time is the same, no matter in what form the investment is made. The prices of bonds fluctuate in such a way as to make this result come true. An investor who wants, for instance, to invest his money for one year can either invest in the short-term market for one year, or buy a bond of any maturity and sell it after a year. For instance, if he buys a perpetual five per cent bond at the beginning of the first year for 95.821 and sells it at the beginning of the second year for 95.612, he makes exactly five per cent, which is equal to the short-term rate for one year. If he holds the bond for two years and sells it at 96.349 at the beginning of the third year, he again makes exactly the same as if he had invested short for five per cent in the first year and six per cent in the second year. Similarly, a person who bought this bond at the beginning of the second year at the price of 95.612, and sold it at the beginning of the third year at the price of 96.349, would make the six per cent which was the

[8] Cf. Keynes, *General Theory*, p. 168f., and Williams, op. cit., Chap. XX.

prevailing short rate in the second year. The formula

$$\frac{\textit{Nominal interest rate} + \textit{capital gain (or — capital loss)}}{\textit{purchasing price}}$$

always gives a return which is equivalent to what the investor would have obtained if he had invested and reinvested at short term for the same time. Thus, as long as the long-term rate expresses the average of the future short-term rates, it does not pay to borrow short and to buy long-term bonds, even though the long-term interest rate (whether this be represented by the running yield or by the yield to redemption) may be above the short-term rate. Whoever engages in such a transaction will discover, when he sells the bond, that he loses on capital account exactly what he thought to gain on interest account. There is, therefore, no mechanism which tends to make short and long rates *equal*. However, there is a mechanism which makes short and long term rates *consistent* with each other. Suppose the price of a bond were such that its yield to redemption were above the average of the future short rates for the time for which the bond has to run; then it would pay to borrow short and buy the bond. This process would lower the yield of the bond until it became equal to the "*average*" of the future short rates.[4]

II

The next step in our analysis will be to introduce the costs of investment. We shall proceed on the assumption that the costs of borrowing *per unit of time* are the smaller, the longer the time for which the money is borrowed. This assumption seems on the whole to be justified. As far as bonds are concerned, the absolute costs to be paid to underwriters and other middlemen do not vary with the length of the maturity of the bond, which means that the costs per unit of time are the smaller, the longer the maturity.[5] In the case of bank loans (where the costs of borrowing are not separated out as such, but are included in the interest rate) the same assumption can be made, since the investigation of the borrower's credit worthiness requires more or less the same procedure, and therefore the same costs, no matter for how long a period the loan is granted.

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[4] Macaulay in dealing with the same problem reaches a very strange result Having postulated perfect forecasting in the market, he says, "If in a tight short-term money market in which six-month obligations of the highest grade are selling on a seven per cent per annum basis, a four per cent bond be selling at par, its *price* at the end of the six-month period must have *risen* to $101.50, if it is to show a return of seven per cent per annum for the six-month period. This, of course, means a *fall* in the 'yield' during the six months. To preserve the theoretical relationship between present long-term and future short-term interest rates, the 'yields' of bonds of the highest grade should *fall* during a period in which short-term rates are higher than the yields of the bonds and *rise* during a period in which short-term rates are lower." (Op. cit., p. 33.) Macaulay admits that experience shows more nearly the opposite result, from which he concludes that the actual forecasting done by the market is very bad. It is, however, his own theoretical deductions which are at fault. Under his assumption of correct forecasting, the initial price of 100 for a four per cent bond, when the rate in the short-term market is seven per cent, is only possible if the later short rates are going to be far below seven per cent. That is to say, the opposite movement of short-rate and yield in the example is only temporarily possible. If the short rate is above the yield to redemption on a bond, this yield will fall only under the condition that the average of the future short rates is below the current short rate. Therefore Macaulay's paradoxical conclusion that the yield of a bond has to fall if the short rate is above the yield, and *vice versa*, is not substantiated.

The question now is· how do these costs of borrowing influence the relation of short to long rates? In order to answer this question, I shall, as a first approximation, treat these costs (of running the banking business, underwriting, etc.) as a price which has to be paid to a third party (banks, etc.) simply and solely for the service of brining lenders and borrowers together. If we are to isolate the influence of the cost factor, we must assume that the rate of interest, once it is established in the market, will not change in the future. This assumption is necessary in order to exclude discrepancies between short and long rates which may arise merely because it is known or expected that the short rates will rise or fall in the future (cf. Section I).

As a starting point, we may think of a situation where there is no shiftability, either on the borrowers' or on the lenders' side. This means that an investor who invests long cannot withdraw his funds before the bond is redeemed, so that a person who has funds at his disposal for a shorter time than the bond has to run has no other choice than to invest in the short market. Nor can a borrower finance long-term capital requirements by borrowing short and continually renewing the loan. In such a case the long and short rates (for the time being I assume only two maturities, "long" and "short") are independent of each other. It is very likely that in this situation the long rate will be above the short, because there will be relatively few funds whose owners can part with them irrevocably for a very long time, whereas the demand for long-term funds will be relatively large owing to the importance of fixed capital. By long and short rate in this connection we mean the rate which the lender gets (i.e. exclusive of the costs). The *borrower's* rate, which *includes* these costs, will be higher than this *lender's* rate, and the short rate relatively more so than the long, i.e. the difference between the long and short rates will be smaller for the borrowers than it will be for the lenders.

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[5] The costs of floating bonds do vary, however, according to the amount borrowed. An investigation by the Securities and Exchange Commission shows that they range between 9.2 per cent for issues of less than 250,000 dollars and 2.3 per cent for issues of 25,000,000 dollars and over. The reader may introduce this factor in the following way: the "costs of borrowing," as we refer to them in the text, may be regarded as the minimum costs of borrowing, to which additions have to be made on the side of the borrower if he borrows in amounts smaller than that to which the minimum applies, just as additions have to be made for increasing degrees of risk.

The demand and supply conditions in the two markets which prevail under the conditions assumed above (i.e. where there is no shifting) we shall henceforth call the "original distribution," and we shall generally assume that, for the reasons indicated, this distribution is such as to give a long-term rate which is above the short-term rate.

Let us now introduce shiftability on the lenders' side. Shifting will take place from the short market to the long, since the lender's rate is higher there. In other words, those who have short funds to invest will buy bonds and sell them after a time. This process will bring the long rate down. Moving in and out of the long market, however, entails special costs, consisting of a brokerage fee for the buying transaction and a brokerage fee *plus* a transfer tax for the selling transaction. These costs of shifting, expressed as a percentage per unit of time, of the funds lent, vary of course for the different "shifters" according to the length of time for which they have their funds available. Shifting will go on, then, until the lender's long rate has been brought down to a level which is above the lender's short rate by an amount equal to the costs of shifting for what we may call the "marginal shifter," i.e. the person for whom the costs of shifting per unit of time are such that it only just pays to shift into the long market.[6] For all shifters from the short into the long market we have to distinguish between the gross long rate, which includes the costs of shifting, and the net long rate, which excludes them. The net rate which the marginal shifter receives in the long market will be the same as he could obtain in the short market. A long investor who can stay in the long market until the bond is redeemed will, of course, receive the whole of the lender's gross long rate as a net rate, and all those shifters who have their funds available for a longer time than the marginal shifter will receive as a net rate less than the long investor, but more than the marginal shifter, depending on the length of time for which they have their funds available.

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[6] To give an example. Let us suppose that the marginal shifter has his funds available for three months. If we assume a brokerage fee of $2 per $1,000 purchase price and a transfer tax of 40 cents, then the total costs of shifting (covering purchase and sale) will be $4.40 on $1,000 for three months, that is, 1.76 per cent per annum, and the lender's gross long rate must be higher than the lender's short rate by that amount. This figure is not quite accurate since the long investor has also to pay a brokerage fee (for purchasing), which must be reimbursed as part of the interest rate he receives. Thus, strictly speaking, it is only the *difference* in the costs (per unit of time) of investing for the long lender and investing and disinvesting for the short lender which has to be taken into account in calculating the effect of the costs of shifting on the gap between the lender's long and short rates. However, if we take the period of long lending long enough we can neglect this refinement.

As far as the *borrower's* rates are concerned, the long rate as well as the short rate will be above the corresponding lender's rates, owing to the costs of borrowing. In comparing the borrower's long rate with the borrower's short rate, we have to remember that the costs of borrowing short are higher than the costs of borrowing long. But to the latter we now have to add the costs of shifting, which, as we have seen, make the lender's gross long rate higher than the lender's short rate. Whether the net effect will be to make the borrower's long rate higher than the borrower's short rate depends on the magnitude of the costs of shifting and the time over which they have to be spread. In practice they are not likely to be such as to raise the borrower's long rate above the borrower's short rate.

The analysis made so far has to be supplemented in two respects.[7] In the first place we do not have only two maturities for which contracts can be made, but many more. This does not invalidate our previous conclusions, but it makes it possible for lenders' rates on some relatively long loans to be above the rates on shorter loans by less than the amount which corresponds to the costs of shifting between the relevant markets. Suppose, for instance, that we have the following three maturities: short, medium and long, and that in the "original distribution" the rates ascend with the increasing length of the maturity. Shifting will then take place from the medium into the long market, and from the short into the medium market, until the lender's long rate is above the medium rate by the marginal cost of shifting from the medium to the long market, and the medium rate above the short rate by the marginal costs of shifting from the short to the medium market. But the lender's long rate need not be sufficiently above the short rate to make it pay to shift from the short into the long market.[8] Thus in the final adjustment the gaps between some of the rates may be less than the minimum costs of shifting between the two respective markets.

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[7] We neglect the possibility that the borrowers too may shift. If, as is most likely, the borrower's short rate is above the borrower's long rate after the shifting on the lender's side has taken place, nothing has to be added to the conclusions reached above. Shifting on the borrower's side from long to short would not pay. Shifting from short to long would not pay either, since the funds, when they were set free in the borrower's enterprise as soon as the need for them had passed, would have to be lent out by him at the lower lender's rate. If, however, the borrower's short rate were below the borrower's long rate, borrowers would shift from the long market to the short provided the costs of doing so were less than the difference between the two rates. The effect of this factor would be to restrict the amount of shifting from the short to the long market on the lender's side to smaller proportions than would obtain in the absence of shifting on the borrower's side.

Secondly, up to this point we have treated the banks as agents, the function of which is simply to bring would-be lenders into direct touch with would-be borrowers. However, the banks do more than that. They change shorter maturities into longer ones. Even though the funds of the depositors may be short funds, they are invested by the banks in commercial loans with longer maturities or even in bonds. How does this shifting activity of the banks affect the rates for different maturities? Suppose that under a direct lending system the funds of the marginal shifter into the long market would be three-months funds and that all shorter funds would be lent out in the short market. If these shorter funds are deposited with a bank, the bank can shift part of them into longer maturities without incurring such high costs of shifting as the marginal shifter would incur in the case of direct lending. This is because the bank, since it can rely on the automatic replacement of one depositor by another, does not have to disinvest in three months time. The result will be that the borrower's as well as the lender's rates on longer maturities will be lower, and the discrepancy between the short and long rates smaller, than if the lenders lent directly to borrowers. The owner of three-months funds will in consequence fall below the margin of shifting and will have to become a depositor too. Shifting by lenders on their own account will not pay, unless they have their funds for a much longer time than was needed before the banks intervened.

We may summarize the main points of the analysis as follows:

(1) The costs of borrowing make the borrower's short and long rates higher than the corresponding lender's rates.

(2) The costs of shifting tend to make the lender's long rate

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[8] It is, of course, possible to conceive of an "original distribution" in which the long rate is so high, and/or so few medium-term funds are available, that it pays for the shortest funds to shift into the long market. In this case the long rate would be above the *medium* rate by more than the costs of shifting from the medium into the long market.

somewhat higher than the lender's short rate. There can be no doubt that the costs of shifting alone prevent people with relatively short funds from investing in bonds, and induce them to leave their funds on deposit with a bank where they receive either no interest at all or else a much lower rate than they would receive in the long market.

(3) Within each market the lenders obtain a net rate which is the higher the longer the time for which they have their funds available.

(4) The costs of borrowing make for a higher borrower's short rate than long rate. The costs of shifting for the lender, although they make for a higher long rate than short rate, are not likely to be sufficient to raise the borrower's long rate to equality with, or above, the borrower's short rate. It is not possible to prove this accurately by reference to the facts For the difference between the rates on bank loans and the long-term rate (say on bonds) is not only dependent on the cost factor, but also influenced by expectations as to the future course of interest rates. However, it seems safe to say that in "quiet" times, when there is no particular reason for the market to expect changes in interest rates, the customer's rates charged by the banks are considerably above high-grade bond yields,[9] even if we add to these latter a percentage figure expressing the per annum costs of borrowing through the bond market.

III

In this section uncertainty and risk will be introduced, i.e. we shall assume that the future movement of interest rates is unknown, but that people have certain expectations about their movement. Risk of default, however, will be excluded from the discussion; the only risk considered will be that associated with changes in interest rates.

In order to investigate the influence of this risk factor, we shall here analyze the case where all members of the market believe it most likely (i.e. expect) that the interest rate will remain what it is and that the chance of a rise and the chance of a fall are even. This assumption allows us to isolate the influence of the risk factor, because it excludes *discrepancies between the rates which* are due solely to the fact that the members of the market *expect* the interest rate to rise or to fall.

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[9] Cf. W. W. Riefler, op. cit., p. 67. The chart given there, which shows that the yield on the average high-grade bond was from 1919 to 1928 (with the exception of a few months in 1924) below the average of the rates charged to customers by banks in the larger cities, is not an unimpeachable proof, since the credit risk of the two series may be different. However, the spread seems to be wide enough to warrant our conclusion that the borrower's short rate is higher than the borrower's long rate.

How, then, does the risk factor influence the equilibrium relationship between the rates on various maturities? This question has been given two conflicting answers in the literature. Williams,[10] for instance, believes that long and short rates will be equal under these conditions. Hicks[11] thinks that the long rate will be above the short.

Suppose that we have maturities for all the various lengths of time for which different investors think they have their funds available, and suppose further that in the "original distribution" the rates are higher the longer the maturities. Those who move into the latter have a chance that the return on their investment, $\frac{\text{nominal rate} + \text{capital gain or} - \text{capital loss}}{\text{purchase price}}$ may be above what they can obtain in their "original" markets for the same period, but they also run the risk that the return may be below that figure. Consequently, if the attitude of the marginal shifter into the longer market is such that he weights the unfavorable chance more heavily than the favorable one, or in other words that he demands a certain compensation for the risk of disappointment, he will not be satisfied with a rate in the longer market which is above the rate in his own market simply by the cost of shifting. It follows that in equilibrium we shall have a scale of rates which ascends with the length of the maturities more steeply than would be the case if we had the cost of shifting alone to consider. A detailed analysis of what determines the gaps between the yields on different maturities would have to follow the lines of the argument developed in section II, which may be applied to the effect of the risk premium just as well as to the effect of the costs of shifting.

The result just arrived at is, however, entirely dependent on our assumption about the "original distribution." The essence of the matter is that an investor may ask for a risk premium whenever he moves out of his "original" market, no matter whether he moves into a shorter or longer market, because in either case the return which he will obtain in the market to which he moves is uncertain. Therefore, if we assume an "original distribution" in which the scale of rates descends, or has ups-and-downs, as we pass form the shorter to the longer maturities, we obtain entirely different results.

[10] J. B. Williams, op. cit., p. 341.

[11] J. R. Hicks, op. cit., p. 166.

It is not legitimate, therefore, to conclude (with Hicks) that the effect of the risk factor, as such, must necessarily be to make long rates higher than shorter ones. On the other hand, the view (of Williams) that the risk factor will be without effect on the relationship between the rates is correct only provided the investors do not *weight the chance of a loss more heavily* than the equal chance of a gain.[12]

IV

In section I we laid down certain propositions as to the relationship between interest rates on various maturities under the assumption of complete foresight. If we were content to speak, as is customary, in the vague terms of "expectations of the market," we should now only have to replace the word "foreseen" by the word "expected," and could then repeat the propositions of section I amplified by the application of what has been said on the influence of the cost and the risk factors. However, this would be correct only if it could be assumed that all members of the market have identical expectations. Only then would it make sense to look upon the long rate as being fundamentally the average of the expected future short rates. We know, however, that the different members of the market seldom have identical expectations, and it is the analysis of this aspect to which we shall now turn.

It will be helpful, in the first instance, to set out the method which a rational investor would have to follow in deciding in which market (short or long) it pays for him to invest. (For the time being we assume that there are only two maturities.) An owner of funds will go into the long market if he thinks the return he can make *there over the time for which he has his funds available will be* above the return he can make in the short market over the same time, and *vice versa*. His estimate of the relative profitability of the two markets will be based on his expectations[13] about future interest rates and bond prices, and will be reflected in the price he is willing to pay for the long-term bond at the present moment. In the simplest case he will determine this price by the following method.

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[12] *In the analysis in the text we made two unrealistic assumptions,* (1) that everybody knows exactly for how long he has his funds available and (2) that there are maturities for all the different lengths of time for which investors think they can invest. However, the main conclusions would not be materially altered, if we dropped these two assumptions.

[13] In the remainder of the discussion I shall, for brevity's sake, use the expression "expected" interest rate or bond price to denote the rate or price which the person uses in making his calculation. It thus reflects the result both of the probability estimate and of the risk premium.

He will discount the price at which he expects to sell the bond at the date when he wants to disinvest (this price is dependent on what he anticipates the long rate will be at that date) and all the interest payments up to that time, back to the present moment, using as the discount factor for each year the short rate which he expects to prevail in that year. This procedure gives him a bond valuation which he will compare with the existing bond price in the market. If the latter is higher than the former, he will invest in the short market instead of buying the bond, since this relationship indicates that he can make more in the short market than in the long. If the bond price in the market is lower than his "subjective" bond price, he will invest long. If the two prices are identical he will be indifferent as between the long and short markets, since he expects to make the same in both.[14] In short, he is prepared to pay a price for the bond which is equal to or lower than the price obtained by discounting all the future payments in the fashion described above.

This, however, is not the end of the matter. The fact that the discounting procedure just described may give the individual investor a "subjective" bond valuation which diverges from the current price in the market implies that the current long rate does not necessarily reflect the future short rates which that investor expects. Similarly, his expectations as to the future long rates need not be consistent with his expectations as to the future short rates. In Section I, where we assumed accurate forecasting for everybody concerned, there was no need to distinguish between the two, since the course of long rates was automatically determined, once we assumed the course of future short rates to be definitely known. In the present case, however, an investor's personal expectations about the future course of short rates do not necessarily commit him as to his expectations about the long rate, since the latter depends, not on what *he* thinks about the future short rates, but what the "market," i.e. other people, think about them. The individual investor, therefore, may quite reasonably form an opinion about the future long rate which is inconsistent with his opinion about future short rates. From this it follows that an investor, if he discounts, as above, the bond price expected at the end of his entire investment period plus the interest payments up to that time, and obtains a "subjective" bond value which is below (or above) the current bond price, will not necessarily go into the short market (or the long market) now.

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[14] Since it is possible for a person to adopt a different attitude towards risk with respect to different portions of his funds, it may be that an investor will invest part of his funds in the short market and part in the long.

There are two main possibilities. First, he may expect that at some intermediate date the yield on the bond (to his personal disinvestment date) will fall below the average of the short rates which he expects to prevail from this intermediate date to the date of his final disinvestment. This means that he expects the bond price to be relatively *high* at the intermediate date. If the bond valuation obtained by discounting *this* price, along with the interest payments, exceeds the current bond price in the market, he will go into the long market now (with the intention of shifting into the short market later). If it is below, he will of course go into the short market from the start.

The second possibility is that the investor may expect the yield on the bond at some intermediate date to exceed the average of the short rates from that date onwards, i.e. he expects the market price of the bond to be relatively *low* at that date. He will then contemplate going into the short market now and into the long market later. There will, however, be some price at which it will be worth his while to go into the long market now instead of waiting. In order to calculate this price, he will discount the expected price at the contemplated buying date along with the interest payments up to that date, back to the present moment. If he were to buy the bond now at this price, he would make just as much as if he went into the short market first and waited till later before buying the bond. If the current bond price is below this "subjective" bond value, it will pay him to go into the long market now; if it is above, he will invest short now, and go into the long market later.

So we see that for any pattern[15] of expectations the investor arrives at a "subjective" bond value which constitutes the maximum price which he is prepared to bid for the bond in the market. We can now proceed to our main task: the analysis of the effect of differences in expectations among the different members of the market.

(1) We may suppose that, following a situation in which there has been equality between the long and short rates, the expectations of most of the owners of funds change in the direction of

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[15] More complicated cases such as going into the long market now, getting out later, and going in again still later, etc., can be treated by the same method. They are, however, of minor importance in practice, since investors hardly ever have sufficiently definite ideas to allow them to plan such complicated investment schemes.

rising interest rates. *They change in different degrees for different persons.* On the basis of the analysis given above, all those who expect such a rise will arrive at "subjective" bond values which are below the current price in the market. We may range the owners of funds in order of the bond prices which they are willing to pay, or, what is the same thing, in order of the yields to redemption (or long rates) which these "subjective" bond prices imply. All those who now demand "subjective" long rates which are higher than the current long rate in the market will prefer to invest in the short market, their inducement to do so being the greater the wider the gap between their "subjective" long rate and the actual long rate. This will lead to an increase in the volume of funds offered in the short market and a decrease in the volume offered in the long market, as compared with the situation from which we started. The effect will be to lower the short rate and to raise the long, the degree of the movement depending on the elasticities of demand for short and long funds. The rise in the long rate will tend to check the movement from the long into the short market, since the higher long rate will now exceed the "subjective" rates of some investors, thus wiping out their preference for the short market. The long rate will rise until two conditions are fulfilled: (*a*) the supply of and demand for funds in each market are equal, and (*b*) all owners of funds whose "subjective long rates are higher than the current long rate are in the short market. One amendment, however, must be made to the foregoing exposition. We must suppose that the adjustment of the long and short rates in the process of shifting funds from the long into the short market will cause some slight revision of the "subjective" long rates for two reasons: (*a*) because the current short rate, which is one of the discount factors entering into the calculation of the "subjective" long rates, goes down, thus lowering the "subjective" long rates; and (*b*) because the expectations about the course of future short (and long) rates are likely to be affected. In which direction this second factor will work we cannot say *a priori*, and consequently we cannot make any definite statement about the direction in which the "subjective" long rates will be affected by the two factors combined.

The following diagram[1] illustrates the way in which the new equilibrium is reached after expectations have changed. *ON* is the total volume of funds (assumed fixed) which is available for investment in both markets together. D^LD^L is the demand curve for long funds and D^SD^S (drawn with *N* as the origin) is the demand curve for short funds. Then in the initial situation, before expectations change, the long rate and short rate are both equal to *OB*, and *OL* is invested in the long market and *NL* in the short. *AA* is what we shall call the "expectations" curve: it represents the line-up of the "subjective" long rates which correspond to people's expectations after the latter have changed. Now assuming that this curve remains unaltered throughout the process of adjustment, we see that equilibrium will be reëstablished with the long rate *OB′*, the short rate *OC′*, *OM* invested in the long market, and *NM* in the short market.

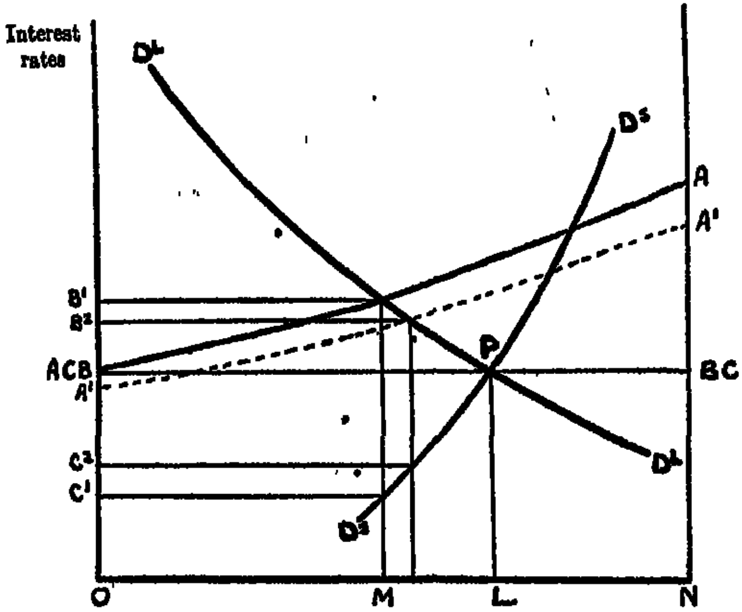

FIG. 1 Volume of funds.

And the spread between the long and short rates will have increased from zero to *C′B′*. However, we must suppose that while the change in the rates is taking place, *AA* will tend to shift, and the final equilibrium position will give a spread between the rates which is slightly smaller or slightly larger (according to whether the expectations curve shifts to the right or to the left) than that arrived at on the basis of the original expectations curve.[10]

[10] The position of the expectations curve corresponding to the rate *OC′* and *OB′* would, let suppose, be *A′A′*. But this curve would again give different interest rates OC^2 and OB^2, and the latter would in turn react back on the expectations curve. All that we can say, then, is that in equilibrium the long rate will be somewhere between *OB′* and OB^2 and the short rate somewhere between *OC′* and OC^2.

The analysis above shows that the final *spread between the two* rates will depend on two sets of factors. (1) The more elastic are the demand curves for short and long funds over the relevant range the smaller will be the spread. (2) Broadly speaking, the greater the number of investors (*weighted by the volume of their funds*) who have high "subjective" long rates, and the higher these rates are, the more funds will be invested in the short market and the greater will be the final spread. More accurately, the spread depends on (*a*) *the shape of the expectations curve* (*the steeper the curve* over the relevant range, the greater the spread), and (*b*) the direction in which and the degree to which this curve shifts in response to changing long and short rates during the process of adjustment.[17]

I can do no more than briefly indicate the results that are obtained if we assume the existence of more than two maturities. An investor will calculate a "subjective" value, on the basis of his expectations, for each of the various maturities, and if he expects a rise in interest rates he will obtain a higher value the shorter the maturity. This will give the result that if most investors expect rising interest rates in the future, the rates on those maturities of which the redemption date lies within the period during which the rising interest rates are expected will ascend with the length of the maturities. In equilibrium all those owners of funds who expect the rates to rise soon and/or to a large extent will have their funds in the shorter maturities, and all those who expect the rates to rise later and/or to a smaller extent will have them in the longer maturities.[18]

(2) There is no need to give a detailed analysis of the case where "the market" expects interest rates to fall. The same sort of analysis could be applied as was used in case (1). In terms of the diagram on page 160 we should have an expectations curve which lay below *BB* over most of its length. With such a state of

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[17] We have not taken into account the possibility that the borrowers may also shift according to their expectations about future interest rates. However, there is not likely to be much shifting on the borrowers' side in the situation analysed in the text. The borrowers, unless they have opposite ideas from the lenders about the future of interest rates, have no reason to shift. Those who want funds for long-term purposes will, of course, have an additional incentive to borrow in the long market, if they think that the long rate is going to rise. Those, on the other hand, who want short-term funds are not likely to borrow long, no matter what they think about the future rates

[18] A closer analysis, which is too lengthy to be undertaken here, would also have to take account of the volume of the securities outstanding (or the demand for funds) under each of the various maturities, since this factor will influence the size of the spread between the rates on those maturities.

expectations we obtain a scale of interest rates which descends with the increasing length of the maturities. But two additional remarks are called for. First, borrowers may shift from long to short borrowing, if they too expect a fall in the interest rates. This will tend to accentuate the discrepancy between the short and the long rates which is brought about by the behavior of the lenders. Secondly, it seems likely that the short rate cannot remain above the long for such a lengthy period as the long rate can remain above the short. The reason is that in this case banks will feel more inclined to shift from the long to the short market, because the higher yield will here be combined with compliance with the traditional views about the greater liquidity of short-term paper, whereas the shift from the short to the long market contravenes the liquidity rule.[19]

(3) The diagram can also be used to show that we may obtain *equal* interest rates, not only if *all* members of the market expect the interest rate to remain stable[20] (I am here neglecting the cost factor), but also if different members have different expectations, provided the distribution of the latter is such as to give an "expectations curve" which goes through the point P in the diagram—an unlikely coincidence.

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[19] In more general terms this means that, in addition to costs and uncertainty, certain institutional factors also influence the structure of interest rates. American banks look upon Government bonds and notes with maturities up to five years as eligible for holding in their "secondary reserve." This creates a strong demand for such bonds, and we may presume that this factor by itself makes for lower interest rates on investments with maturities up to five years than those with longer maturities. (Compare the yields for 1938 on the chart on page 165, where a wide gap is observable between the yield on the five-year maturity and the yield on the next longer maturity.) English banks aim at keeping a certain relatively fixed percentage of their assets (the thirty per cent ratio) in the form of cash and short material. There is therefore a relatively fixed supply of funds whose owners are not prepared to shift them into the long market, even if the rate there is higher. This makes it possible for the Treasury to cause the short rate to fall below the long rate, simply by curtailing the issue of treasury bills. This discrepancy will last as long as the shortage of treasury bills continues, and it is one which cannot be explained in terms of expectations. Furthermore, within each category of short material, the banks, for a variety of institutional reasons, look upon shorter maturities as being more liquid than longer ones. For this reason three-months bills are preferred to six-months bills in the commercial paper and the bankers' acceptances markets, and call loans to time loans to the stock exchange. The result is that the rates are slightly lower on the shorter maturities than on the longer maturities within the same category of short loans. To this rule there are only very rare exceptions. Apparently only if it is practically certain that the rate on the shorter maturities is going to fall (for instance, if bankers are sure that the official discount rate is going to be lowered) will the rate on the longer term bills be below the rate on the shorter term ones (as in England in December, 1929.)

[20] Cf. pp. 147-8.

V

In this section we shall try to verify some of the propositions of Section I as amplified by what has been said in Sections II, III and IV. In order to simplify the terminology, we shall talk in terms of the "expectations of the market." The reader will be aware, from the analysis of Section IV, of the complicated relationships that are hidden behind this term.

(1) We turn first to the *movement* of the interest rates over time. Although the fact that different people in the market hold different opinions about the course of the rates that may be expected to prevail in the future means that there is no precise sense in which we can call the long rate an average of the expected future short rates, it remains nevertheless true that the long rate (or bond yield) is, in the complicated way described in Section IV, the outcome of the whole pattern of expectations of the members of the market as to the future short rates during the time the bond has to run. This still gives the result that the long rate cannot fluctuate as widely as the short rate. That the long rate is in practice more stable than the short rate is such a familiar fact as to require no statistical proof.

The long rate can move temporarily contrariwise to the short rate. The long rate may fall while the short rate rises, provided "the market" thinks future short rates will be below the short rate from which the rise starts, and *vice versa.* Considering that "the market" does not form any very definite idea about future short rates which are still a long time ahead, we should not expect this to happen very often. Indeed, as a rule, the long rate is either entirely unaffected by changes in the short rate or else it moves very slightly in the same direction as the latter. A contrary movement of short and long rates is most likely to be found in connection with seasonal fluctuations of the short rate. The market knows that these are temporary, and if, for instance, a seasonal rise in the short rate impinges on a situation in which the general tendency is expected to be a fall in the rates, we may obtain such a contrary movement. This situation seems to have prevailed in the latter half of 1930 in London, when the market rate on three-months bank bills rose from 2.07 per cent in September to 2.18 per cent in November, while during the same time the yield on 2½ per cent Consols fell from 4.52 per cent to 4.27 per cent.[21] Since it was in the early phase of the depression, a general fall in the rates could be reasonably expected, despite the seasonal rise in the short market. Other instances of the same kind can be found.

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[21] The figures cited are the monthly averages.

(2) We turn now to the structure of yields on different maturities at a given date. If nobody concerned has any reason to believe that the future short rates will be higher or lower than the present rates, we shall obtain approximately[22] *equal yields for different* maturities. Such a situation is likely to occur at a time when business is good without, however, showing any sign of a boom. This was approximately the state of affairs in 1927. The chart on p. 165 shows that in May of that year Government bonds and notes, which for purposes of comparison have the advantage of being without default risk, show about the same yields for different maturities.[23] (There seems to be a *slight tendency towards lower yields for longer* maturities.) Not all yields are exactly in line. There are several reasons for this. First, Government bonds and notes are not treated alike with respect to tax exemption.[24] Secondly, the impression gained from studying the material is that the "arbitrage" in the bond market does not work as perfectly as it does, for instance, in the foreign exchange market, so that a yield may be out of line *for this reason alone*[25] *Thirdly, the fact that it is not known for* certain that the bond will be redeemed either at the first optional call date or else at the final maturity date (it may be redeemed at some date in between) may account for some irregularities. (Cf. footnote 26 below). But despite the influence of these factors the figures for the date we have chosen in *1927* (as depicted in the chart) are very nearly on the same level.

We shall have a line of yields descending continuously with maturities of increasing lengths and then flattening out, if the short rates are expected to fall in the near future and then to reach a certain level where they will stay. Such a situation is likely to pre-

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[22] The risk and cost factors make, as we saw previously, for rates which ascend slightly with the increasing length of the maturity. However, the differences due to these factors are probably so slight in practice that they will always be overshadowed by the expectations factor.

[23] *In conformity with the generally accepted practice*, the yields are calculated to maturity, if the bonds are selling below par, and to the earliest optional call date, if they are selling above par.

[24] For instance, the First Liberty Loan 3½ per cent redeemable 1932-47 shows a yield to the call date 1932 (against which year it is plotted in the chart) of 3.3 per cent, which is below the yields on the other securities redeemable at the same time. This can be explained by reference to the fact that this bond is exempt from all surtax, whereas the others are only partially exempt.

[25] The high yield (3.8 per cent) on the Second Liberty Loan 4 per cent 1927-42 (calculated to the call date and plotted against the year 1927 in the chart) is difficult to explain, considering the fact that the Second Liberty Loan Converted 4¼ per cent 1927-42 with exactly the same tax features has a yield of only 3.4 per cent.

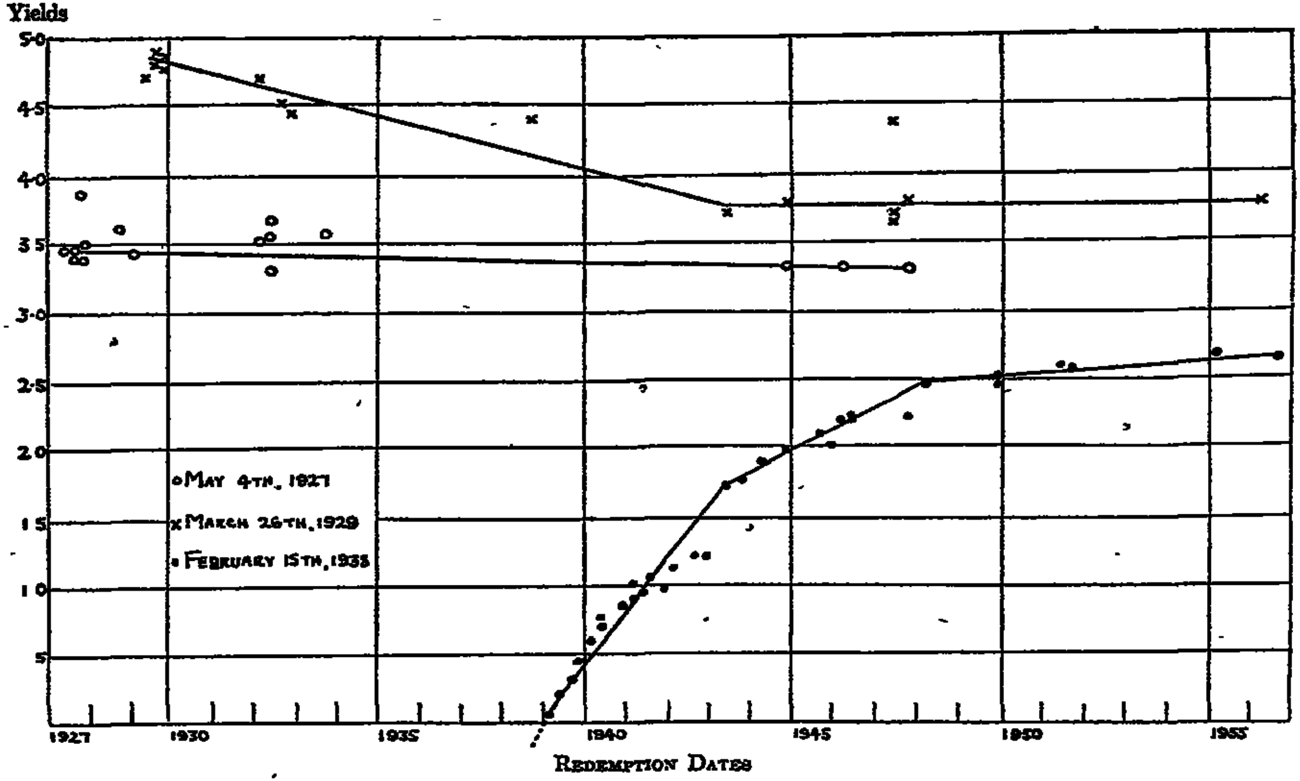

FIG. 2. Yields on United States government bonds and notes.

vail in a financial crisis at the top of a boom, or what is believed to be the top of a boom. On March 26, 1929, there was a crash on the stock exchange. For this date we obtain an almost continuous downward movement in the yields for maturities of increasing lengths, as can again be seen in the chart on p. 165.[26]

In recent years we have had a situation where future short rates (as well as long rates) were expected to rise, which accounts for the fact that we have a series of yields which ascends with the length of the maturities. This is shown in the chart, which gives the yields for Government securities of various maturities on February 15, 1938. Any date in the last seven or eight years gives a similarly rising series. The existence of these expectations at the present time is not proved by this ascending scale of yields alone. Direct evidence to the same effect is to be found in the financial journals, which are full of warnings that present interest rates are unusually low. There is also evidence of the investment policy of the banks, which are reluctant to invest any substantial proportion of their assets in bonds with distant maturities for fear of a fall in their value resulting from rising interest rates. Finally, there have been numerous issues of serial bonds where the bonds which fall due later bear a higher coupon rate than those which fall due earlier.[27]

[26] A glance at the chart shows that one yield (plotted against the year 1947) is very much out of line. It is the yield on the First Liberty Loan Converted 4¼ per cent bond, call date 1932 and maturity date 1947, which has a yield to maturity of 4.4 per cent, whereas other bonds (plotted against the same year) have a yield of around 3.8 per cent. As this irregularity persisted in the following weeks, it cannot be due merely to imperfect adjustment of the market. The real reason, I think, is this: the bond in question stood at 98 9/32, and its yield is consequently calculated to the maturity date. However, it is clearly indicated by the whole curve of the yields on on securities of different maturities that the market expected a fall in interest rates in the near future. It was therefore likely that the bond would be redeemed *before* 1947 (perhaps as early as 1932), since its price was likely to rise above par before that date. (Much the same is true for the Fourth Liberty Loan 4½ per cent 1933-38, plotted against the year 1938 in the chart.) The other bonds whose yields are plotted against the same year 1947 (with the exception of the First Liberty Loan 3½ per cent, which is free from all surtax) are bonds which cannot be repaid before 1944 or 1946, so that the same argument does not apply to them. The rule according to which we calculate the yield to the maturity date, if the bond is selling below par, and to the first optional call date, if it is selling above par, is somewhat arbitrary, and in some cases obviously does not make sense.

[27] Cases where the market expects the interest rates to rise first and then to fall later can also be found in the empirical material, but I must omit them here for lack of space. I have described the "curves" of the yields on different maturities for only a few selected dates. If we were to trace the movements of these curves continuously through time, they would reveal how quickly, and in response to what events, the expectations of investors change. Such an investigation would thus be a contribution towards obtaining empirical material about the behaviour of expectations in a dynamic system. I hope to extend the investigation along these lines at a later date.

VI

The analysis of the relationship between long and short rates has a bearing on many problems, practical as well as theoretical. In the remainder of this article we can deal with only four of them.

(1) If it is true that only changes in the *long* rate affect investment, it seems to follow that the discount rate can only influence investment if the discount rate reacts on the long-term rate. Now one of the conclusions which can be drawn from the analysis in this article is that a change in the short rate will bring about a change in the long rate only if a general conviction is created that the short rate will remain low for a considerable time. Therefore the monetary authority has to create such a conviction,[28] if it wants to bring down the long-term rate and to induce more borrowing. Owing, however, to the fact that in the past, particularly under the gold standard, the discount rate was changed very often, partly with an eye to the external situation of the country, the public has become used to frequent changes in the short rate and is not inclined to believe that a low level of short rates is going to persist. This seems to imply that the discount rate should be altered as infrequently as possible. If this is not feasible, the central banks must try to influence the long rate directly, if they want to regulate investment.

(2) An entrepreneur who considers whether to borrow capital or not is said to compare the marginal efficiency of capital with the interest rate. Which interest rate? An entrepreneur who wants to finance long investment has to compare the existing long-term rate with the average of the expected future short-term rates (plus the costs of re-borrowing) or, if he expects the long rate to fall, with the average of the short rates for part of the time and the long rate for the rest of the time for which he wants to borrow. Whichever is the lower will be the one which he will set against the marginal efficiency of his capital or his expected profit rate.[29] As the different entrepreneurs will usually have different expectations, they will base their action with regard to investment on different rates. There is, therefore, no such thing as "the" interest rate which keeps "the" entrepreneurs from expanding, unless we assume very stable conditions in which there is no reason for any entrepreneur to think that the rates will change.

(3) A wide gap between short and long rates may exert a

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[28] Cf. Keynes, *General Theory*, p. 203.

[29] Cf. Breit, Ein Beitrag zur Theorie des Geld- und Kapitalmarktes, *Zeitschrift für Nationalökonomie*, 1935, p. 644.

considerable influence on the amount of new borrowing that is undertaken. If the long rate is above the short, which implies an expectation that the long rate will rise, borrowers will try to borrow long in order to take advantage of the particularly low rate. The lenders, among them the banks, have an opposite interest: they prefer shorter maturities in this situation. It may therefore be difficult to float long-term securities. There are, however, several ways out of this difficulty. One way would be for the borrowers to shorten the maturities. Apparently for this reason, the British Treasury did float its Defence Loan of 1937 in the form of bonds with the comparatively short maturity of seven to ten years, and still more recently (January, 1940) a Conversion Loan has been announced with only three to five years to run.

The same problem exists, probably in even greater degree, with regard to flotations by corporations, and the difficulty may possibly be accentuated by the fact that the corporations have to make use of investment houses. The latter may be reluctant to float bond issues, either because they are afraid that the interest rate will have risen before they have sold the whole of the issue, or because they are anxious to avoid disappointing important customers (e.g. institutional investors), who may suffer a loss because the interest rate rises after the bonds have been sold to them. Here again a shortening of the maturities would facilitate borrowing operations. However, in view of the high costs of borrowing, corporations cannot adopt this procedure so easily as a government can.[10] Corporations have, therefore sometimes used different methods to adapt their flotations to the situation where the interest rate is expected to rise.

First, as has been mentioned before, there have been many cases of serial issues where the bonds which fall due later bear higher interest rates than those which are due earlier. By issuing these serial maturities the corporation accommodates lenders who do not want to invest in long-term securities. At the same time it is enabled to take advantage, in some measure, of the low rates prevailing for shorter maturities, and to "spread" the costs of borrowing. Secondly, recourse can be had to the practice, so far not very common, of issuing securities with variable interest rates.[31] Such issues are made attractive to the lender by a rising nominal interest rate which will protect him against a loss (or at least reduce it), if and when the long rate in the market rises.

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[10] Before the last war, particularly in the nineteenth century, governments and corporations sometimes floated perpetual bonds or bonds with maturities of a hundred years or longer. Nowadays a government or corporation would hardly issue such bonds. This is no doubt the effect of the increase in uncertainty about future economic developments (including the course of interest rates). Such an increase in uncertainty necessarily makes perpetual bonds, and bonds with very long maturities, unpopular with the investor. The shortening of the maturities is a method by which the capitalistic system adapts itself to the condition of greater uncertainty which has prevailed since the last war.

(4) The analysis of this article has shown that the relationship between interest rates on different maturities is determined in the main by the expectations as to the future course of interest rates. According to the "liquidity theory of interest," it is the degree of liquidity of securities with different maturities which determines this relationship. The most liquid asset, money, does not bear interest. Securities, being less liquid than money, bear an interest rate which is the higher the longer the maturity, since the danger of a capital loss due to a change in the interest rate in the market is supposed to be the greater (and therefore liquidity the smaller) the longer the security has to run. We know, however, that the short-term rate can be *above* the long-term rate, a fact which does not seem to fit in very well with the liquidity theory of interest. It is not possible to get out of this difficulty by calling a situation in which the short rate is above the long an exception, and ascribing it to the "technical conditions of the market" in times of financial crisis. The short rate is too frequently above the long, and often stays above it for too long a time, to warrant such a statement. In London, for instance, the short rate was above the long rate for nineteen months from the end of 1919 to the middle of 1921, and for eleven months in 1929. Before the War of 1914-1918 there are apparently[32] times where the short rate was above the long rate for even longer periods, and the long rate cannot be said to have

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[31] For instance, R. H. White Co. of Boston recently executed a note for 1.5 million dollars, payable in twenty years, to the Prudential Insurance Co., for which the interest rate was as follows: 4 per cent for the first ten years, 4¼ per cent for the next five years, and 4½ per cent for the last five years. (Commercial and Financial Chronicle, *Monthly Bank and Quotation Record,* March, 1939.)

[32] The Research Department of the London School of Economics has collected material on short and long rates in London, back to the year 1825. However, in this material the short rate is represented for the period before the War of 1914-1918 only by the rate on the first Friday in the month, whereas the long-term rate is the monthly average of the daily yields on Consols. The reader has to keep this in mind in appraising the following statistics. (In order to reduce the error I have eliminated from the series those months in which the two rates are relatively near to each other.) Between 1825 and 1938 the long rate was above the short in 764 months, whereas the short was above the long in 580 months. If we deduct from the first figure the months of the last years (which have no counterpart in previous times), the long rate was above the short in 677 months. The 580 months

shown a tendency to stay more often and for longer periods above the short rate than the short rate above the long.

If we can bring ourselves to adopt a rather unusual yet logical definition of the term liquidity, we can still say, in spite of these facts, that the degree of liquidity determines the relationship between the rates on different maturities. One asset is said to be less liquid than another because the danger of a loss seems to be greater in case it is sold. Now if the owner of an asset thinks that he has a good chance of making a gain when he sells it, it seems to be logical to attribute a particularly high degree of liquidity to this asset. In times, therefore, when an investor expects the interest rate to fall, we should have to say that he regards securities with longer maturities as more liquid than those with shorter maturities, and is consequently prepared to take a lower rate on the long ones than on the short. Provided we adopt this terminology, we can say that the degree of liquidity of securities of different maturities, as understood by the marginal lenders in the different markets, determines (together with the cost factor) the relationship between the interest rates.[33]

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can in either case hardly be called an exception. The longest time for which the short rate was without interruption above the long is 42 months, and periods of more than 20 months are not infrequent. If we again exclude the current period, we find that the longest time over which the long rate was above the short was 44 months.

[33] However, money then falls out of line. For, as far as its degree of liquidity is concerned, it would range below securities which give a chance of a capital gain; all the same, the latter bear interest whereas money does not.

CHAPTER XI

Mr. Keynes' "General Theory of Employment, Interest and Money"*

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In an important book recently published Mr. Keynes has attempted to solve the general problem of variations in the volume of output and employment. As the book is largely an attack on the adequacy of the existing orthodox economic theory as a means for handling the problems of fluctuations in employment, trade cycles, and the like, it is clear that it has an important bearing on many of the questions which are at present in the forefront of the interests of the International Labour Organization. The argument, however, which deals primarily with questions of theory and only in the second place with the application of this theory to practice, is by no means easy to follow, partly from the intrinsic nature of the subject, partly from the highly specialised terminology employed. The Office has therefore thought that many readers of the Review *would welcome an account in simpler terms of the main argument of the book. This is the purpose of the following article, whose author is thoroughly familiar with Mr. Keynes' writings. It should be added that the article has been read in manuscript by Mr. Keynes himself, who has expressed his approval of it.*

THE object of this article is to provide as simple as possible an account of the most important line of argument that runs through Mr. J. M. Keynes' book *The General Theory of Unemployment, Interest and Money*,‡ so that, except perhaps in some details of presentation, it contains nothing original. I have endeavoured, where possible, to follow the traditional use of language more closely than Keynes does, as I have found that this renders the argument both more intelligible and more acceptable to those who are not familiar with the oral tradition of Cambridge. While necessarily simplifying the argument considerably in order to be able to encompass it in an

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‡Macmillan, 1936.

article of appropriate length, I do not think I have left out anything fundamental. In discovering what are the points in the argument or its presentation at which students are liable to jib, I have learnt much from innumerable discussions with economists and students in London, Cambridge and Geneva, and of these certainly the most helpful was Dr. Gottfried Haberler, who has been working towards similar results along a quite different route. I must add that I would certainly not have been able to attempt this task were it not for the time I spent in Cambridge in 1934-35 while Leon Fellow of the University of London.

Keynes wishes sharply to distinguish his own system from what he calls the "classical" economics. By that he means the orthodox body of doctrine, first conceived in fairly complete outline by Ricardo, and developed by almost all economists of repute from that time on, both in England and elsewhere, which finds its present culmination in the works of Pigou. Keynes is so keen on making clear the difference between the classical and his own scheme that he perhaps over-emphasises it, willingly taking this risk in order to be certain of avoiding the other error, which he considers more dangerous, of permitting a reader to overlook the revolutionary nature of the change. He has no patience whatever for the interpreter who would try to read Keynes' views into the classical writers. This is not at all—as is frequently suggested—because that would diminish his claims to originality (in fact I believe he is over-generous in his estimate of how near the Mercantilists and the Monetary Cranks were to his thesis) but because he is convinced that such indentification is made plausible only by obscurity. Keynes therefore complains that "Those who are sufficiently steeped in the old point of view simply cannot believe that I am asking them to step into a new pair of trousers, and will insist on regarding it as nothing but an embroidered version of the old pair that they have been wearing for years."[1]

I have insisted at some length on this because it helps to explain the extraordinarily psychological resistance to Keynes' new argument that is always displayed by classical economists. (I shall use this word throughout in Keynes' sense.)

It is this psychological resistance that so frequently leads people to reject a proposition of Keynes' as a paradox and then to turn uneasily and, almost in the same breath, to scorn it as a platitude. "It's absolutely wrong"—"we all knew that before!"

The last sentence in Keynes' preface reads: "The difficulty lies, not in the new ideas, but in escaping from the old ones, which ramify, for those brought up as most of us have been, into every corner of our minds." I would like to underline that sentence.

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[1] *Economica,* Nov. 1931, p. 390.

Keynes is concerned with the problem of unemployment. The classical view is that in the absence of State interference or other rigidities, the existence of any unemployment will have the effect of lowering wages.

This follows immediately from the definition of unemployment, for any man who is not in employment but who does not try to get work at a lower wage is no more considered to be unemployed than the man who refuses to work overtime or on Sundays. At the current wage he prefers leisure to employment He may be idle but he is not unemployed—at any rate he is not involuntarily unemployed. If he really wanted to work, if he were really unemployed, he would offer himself at a lower wage and this would reduce the level of wages. Unemployment is incompatible with equilibrium.

The reduction of wages, the argument goes on, will make industrial activity more profitable so that business men will employ more people. As long as there is any unemployment wages will fall, and as long as wages fall profits rise, and as profits rise employment increases until all the unemployed are absorbed in industry and we have equilibrium and no more unemployment.

Unemployment can therefore persist only if the State, or the Trade Unions, or some other institution prevents the unemployed from offering their services at lower wages and so from setting in motion the automatic mechanism which leads to equilibrium and full employment. What is necessary, therefore, is simply to remove the rigidity and allow the unemployment to liquidate itself by reducing wages.

Keynes accepts neither the definition nor the argument. Like the classical economists he is concerned only with *involuntary* unemployment, but he defines as *involuntarily* unemployed a man who would be willing to work at a lower *real* wage than the current real wage, whether or not he is willing to accept a lower *money* wage. If a man is not willing to accept a lower *real* wage, then he is *voluntarily* unemployed, and Keynes does not worry about him at all. But there are millions of people who on Keynes' definition are unemployed but who fall outside of the classical definition of unemployed, and these provide one of the most pressing of modern social problems. These are willing to work for less than the current real wage—they would be willing to work for the current money wage even if the cost of living were to go up a little—yet they cannot find jobs. What determines the number of people in a society who find themselves in this position? Or to put the question the other way round, what determines the number of people who do find employment? The object of Mr. Keynes' book is to indicate the road leading to the answer to this question.

The classical refusal to consider these men as really involuntarily unemployed resolves itself into a recipe for finding them employment. They have only to agree to accept lower wages and they will find work. Keynes objects to this procedure of economists on two separate grounds. His first objection is on the practical ground of the uselessness of tendering advice that one knows will not be accepted, even if it is sound advice. It is time for economists who wish to give statesmen practical advice to realize that money wages are sticky —that workers will, in fact, refuse to reduce money wages.

But Keynes' main objection consists of a denial of the theory which is put forward as an excuse for the treatment. If money wages are reduced it does not follow that there will be any increase in employment. A general reduction of wages will reduce marginal costs, and competition between producers will reduce prices of products. Equilibrium will be reached only when prices have fallen as much as wages, and it will not pay to employ more men than in the beginning. The workers, who are able to make agreements with their employers about their *money* wage, cannot adjust their *real* wage. If they could reduce their real wage more would be employed, but they can only attempt to reduce their real wage by reducing their money wage at the existing price level. This, however, only brings about a proportionate fall in prices so that they are in fact not able to vary their *real* wage. That is why their unemployment is *involuntary* even if they refuse to accept a lower money wage. For that wuld not have the desired effect of reducing the real wage and increasing employment—it would merely remove a certain stability of prices.

It has hardly been disputed that a cut in money wages, by reducing costs, will have some tendency to reduce prices, but it remains to be shown why prices should fall *proportionately* to the reduction in money wages so that there is *no* fall in the real wage and so *no* increase in employment in the manufacture of consumption goods. (Employment in investment industry depends on other factors considered below. For the time being this is taken as given.)

Whether this will be the case or not cannot be decided at all by looking merely at the effect of the wage cut upon *costs*. It is necessary to consider the effect of the wage cut upon *demand;* whether directly or whether indirectly through the change in employment that might be initiated by the first impact of the wage cut. Until we bring this into the picture we have not sufficient data to be able to decide what the result must be.

This has made it possible for one eminent economist to argue that a cut in money wages will increase employment, and for another eminent economist to argue that a cut in money wages will not increase employment. The first is able to show that his thesis is consistent with the cost conditions; for with a larger volume of employment—with more labour applied to the given productive equipment of society—the marginal productivity of labour is less, marginal costs are higher relatively to wages; prices (which, with the same degree of imperfection of competition, must in equilibrium bear the same ratio to marginal costs) are also higher relatively to wages, so that the workers by cutting their money wages have been successful in reducing their *real* wages. The second is also able to show that his conclusions are consistent with the cost conditions; for if there is no increase in employment, marginal costs will fall as much as wages, and prices have to fall in the same proportion as costs, so that there is no change in real wages. Further, each economist is able to accuse the other of assuming his conclusions, and then each can complain of the pot calling the kettle black. So that we have an infinite regress but no answer to our question.

The necessity of bringing in the demand side is seen even more clearly if we suppose for a moment that wages are the only item that enters into marginal costs and that marginal costs are constant. In this case there is no inverse relation between employment and real wages. If wages are cut, marginal costs fall in the same proportion as wages whether there is an increase in employment or not. There will be no fall in real wages, but that tells us nothing about the volume of employment. To get the answer to our question we have to consider the effects of the wage cut on demand, direct as well as indirect.

The essence of the analysis whereby Keynes obtains the result that there will be no change in employment comes from a consideration of demand conditions. If there is initially an increase in employment—and, since employers very often think that a wage cut is a good thing, this impact effect is very likely—the demand conditions will be such as to bring about losses which tend to induce the entrepreneurs to curtail employment until the previous equilibrium level of employment is restored. Similarly, if the impact effect is to reduce employment, this will bring about profits which induce entrepreneurs to raise employment to the previous level.

The losses that accompany an increase in employment in the manufacture of consumption goods are due to the tendency of people, whose income is increased, to increase their expenditure by *less* than the increase in their incomes. This means that the increase in revenue from the sale of the larger output of consumption goods is less than the increase in the outlay on their production so that there emerges a net loss. This loss may be mitigated, but not entirely escaped, by the withholding of stocks with the intention of selling them at a more propitious moment, but this procedure, while diminishing losses, has the effect of building up superfluous stocks. The losses and the accumulation of stocks both tend to reduce employment, and these forces must persist and accumulate as long as employment remains above the equilibrium level. The whole of this phenomenon is reserved for the case where the initial effect of the wage cut is to diminish employment.

We must now consider how all this works if items other than wages enter into marginal costs. Where this is the case these other items are payments for the use of productive resources which, in the short period, are fixed in supply. This is because they accept whatever they can get, their reward falling relatively to wages until all those that are of any use whatever are employed.

If, then, wages are reduced, the attempt to substitute labour for these other productive resources will increase employment and may reduce the earnings of these resources. As long as these earnings have not fallen in the same proportion as wages, costs and prices will not have fallen as much as wages but will have fallen more than the rewards of the other productive resources. Real wages will be lower while the real reward to the other productive factors will be greater. More men will be employed, and the total real income will be greater; since with more men employed on the given resources a greater real product is forthcoming. The aggregate real income of the other productive resources is increased, since the quantity employed is unchanged and the real rate of reward is increased. The aggregate real income of labour may be greater or less than in the beginning, according as the increase in employment is greater or less than the reduction in the real wage.

As long as this situation remains, prices have not fallen as much as wages have been reduced; and the workers have been able to reduce their real wages by reducing their money wages and thus to increase employment. Such a position cannot be expected to persist, but contains within itself forces which will still further reduce the rewards of the factors other than labour until costs and prices have fallen proportionately to wages, and real wages and employment are back again at the original level.

In the situation we have just described total real income is greater than in the initial position, because more men applied to the same equipment produce more goods. There is an increase in the total real costs of the consumption enterpreneurs exactly equal to this increase in real income (since the incomes of the factors of production are the costs of the entrepreneurs). Out of this extra income some will be saved, so that the total receipts of consumption entrepreneurs increase (in real terms) less than their outgoings. Entrepreneurs make losses which cause them to restrict their (output and) demand for productive resources. This goes on as long as more men are employed than in the initial equilibrium and as long as the real reward of the productive resources other than labour is greater than in the initial position. These two phenomena disappear at the same time, since the tendency to substitute labour for other productive resources, which led to the increase in employment in the first place, disappears just at the point where the real reward to the other productive factors has fallen in the same proportion as prices and wages. A new equilibrium is reached only when employment has gone back to its original level and the reward of the other resources has fallen to their old *real* level. This will only be when their prices have fallen in the same proportion as wages. As long as these have fallen only in a smaller proportion than wages, prices will be higher than before relatively to wages and lower than before relatively to the reward of the other productive resources, and the disequilibrium described will continue.

In a longer period it will be possible to increase or decrease the supply of productive resources other than labour by varying the application of current factors of production to their manufacture, so that the above argument, which rests on the fixity of supply of productive resources other than labour, would not apply. But there will be no inducement to vary their supply since their price, determined in the longer period by their cost of production, will have varied in just the same proportion as wages. There is therefore no point in departing—except as a temporary mistake—from the initial level of employment.

This does not mean that a reduction of money wages may not have all sorts of indirect influences which ultimately react on the level of employment. There will be effects on the demand for money, on the rate of interest, on entrepreneurs' expectations of future prices or rather of the relation of these future prices to present costs, on the distribution of wealth and spending—all these and other influences will have an effect on the number of people that entrepreneurs consider it profitable to employ—but these work in divergent directions and some of them only after a considerable interval, so that nothing can be said as to the effect of the sum of these influences on unemployment as a result of a reduction in wages until a complete set of assumptions has been provided as to the form and strength of these influences. Before we have all this information we must either assume them to cancel out and say that there is no effect on employment, or else, if we wish to be more realistic, we must say that what happens to employment if money wages are reduced will depend upon other conditions, so that employment might go either up or down. Anything might happen. There is no simple rule such as the classical economists envisage relating the level of employment to the money wage.

If the level of employment is not affected in any simple way by the money wage, what is it that does determine the amount of employment? Before answering this question it is useful to contemplate some very simple equations.

The income of the whole society is earned by the members of the society in producing either consumption goods or other kinds of goods. We call these other goods investment goods. This gives us our first equation. The total income of society (Y) is made up of the income earned in making consumption goods (C) and the income earned in making investment goods (I). $Y = C + I$.

Now C, which stands for income earned in making consumption goods, must also stand for the amount spent on buying consumption goods, since these two are in fact the same thing. (Similarly I stands also for the amount of money spent on investment goods). The aggregate amount of saving in any period (S) is defined as the excess of aggregate income in the period over the expenditure on consumption goods. This, the almost universal definition of Saving, gives us our second equation $S = Y - C$ (Definition).

From these two equations it follows that saving must always be equal to investment. S = I.

This appears rather peculiar to many people when they first meet it, since there is obviously no mechanism whereby any individual's decision to save causes somebody to invest an exactly equal amount. Mr. Keynes has ineradicably impressed that upon the mind of everyone who has read his *Treatise on Money.* And of course Keynes was right in this. Yet there is no paradox.

It is perfectly possible for any individual to save more without investing more himself. The proposition applies only to *aggregate* saving and investment. Neither is it necessary that aggregate investment should increase whenever any individual decides to increase the amount that he saves. This would be so if an increase in an individual's saving left unchanged the amount saved by all other individuals together, so that it always meant an increase in aggregate saving. But we cannot assume that, because the individual must decrease his expenditure on consumption goods to the extent that he increases his saving. This diminution in C (if others have not changed their expenditure on consumption goods) diminishes Y (by diminishing the income of those who sell consumption goods) and therefore leaves (Y — C), which by definition is S, the same as before. Others have saved as much less as he has saved more, so that aggregate saving is unchanged and equal to the unchanged I. If there is no change in I there can be no change in S.

Individuals deciding how much to spend out of their incomes seem to be able to decide how much to save, and if we consider one individual in a large society, this has sense, because the effect on his own income of an individual's expenditure on consumption goods can be neglected. But if we take society altogether and neglect the effect of changes in expenditure on total incomes, we naturally get into trouble, for we are then making the contradictory assumptions (*a*) that when people save more they spend less on consumption goods and (*b*) that the people who sell consumption goods do not receive any less. And nobody expects to get sensible results by deduction from contradictory assumptions, not even those who are most scornful of the canons of "bourgeois" logic.

The classical view that an individual, in deciding to save more, increases the aggregate amount of saving (S), can be supported by another argument which does not, at first sight, appear to be quite as illogical as that just given. We must leave this however until we have examined the classical theory of the determination of saving and investment and the rate of interest.

A more common-sense objection to the proposition that saving and investment must always and inevitably be equal to each other is to be found in the query whether the identity of these two cannot be upset by *hoarding*. In the case of any individual it is clear that there is no need for his saving to be equal to his investment. When an individual saves more than he invests he is said to *hoard* the difference. Why cannot society do the same? And if society hoards (or dishoards) will that not make saving greater (or less) then investment?

We must note more carefully what is meant by "hoarding". Our individual who invested only a part of his saving was left with the difference in cash. His store of money has increased and it is in fact this increase in his store of money that *is* his hoarding. Any individual who saves more than he invests in any period increases his holding of money by the difference. Any individual who increases his store of money in any period must have saved more than he invested in the period by just that amount.

The question "Can the society hoard?" means, then, nothing else than "Can society increase its store of money?" This will depend upon whether the monetary authority has increased the amount of money in the society during the period we have been considering, or whether it has not.

If the monetary authority does not increase the amount of money it is impossible for the society to hoard. If any individual hoards other individuals have to dishoard to the same extent, for it is impossible for anybody to increase his store of money without somebody else diminishing *his* store of money as long as the total store is unchanged. There cannot therefore be any *net* hoarding (or dishoarding) by all the members of the society taken together, so that there cannot for the society be any excess of saving over investment (or of investment over saving). $S = I$.

If the monetary authority does increase the amount of money, then there not merely *can* be net hoarding by the whole society, but there *must* be net hoarding exactly equal to the increase in the society's holdings of money. This does not mean that there is any divergence between saving and investment. There is indeed an excess of saving over investment by the individuals who are left with the extra money that has been put into the society and which must be in somebody's hands. But this is exactly balanced by the expenditure of money by those individuals who borrowed the extra money from the monetary authority (the banks). These borrowers were enabled by the banks to consume or to invest out of borrowed money that was not part of their income. In so far as they spent the money on consumption this constituted negative saving which has to be subtracted from the excess saving by the hoarders. The rest of the borrowed money is invested and provides the investment that balances the excess saving and shows again the inevitable equality of saving to investment. We always get back to this really very obvious if not very informative bit of arithmetic. It only appears strange or suspicious because of the habit of looking at the saving from the point of view of the individual who has got his income and is wondering whether to save it or not. He is naturally unable to see the whole social process. Our suspicions should vanish when we realize that all that the proposition says is that the excess of total income over income earned in making consumption goods is equal to the income earned in other ways.

What we have done now is to replace the suspect proposition that S = I by the even more suspect proposition that it is impossible for a society to hoard if the banks do not increase the amount of money. Does this imply that everything that has been said in economic discussions about the effects of hoarding is sheer nonsense?

This is of course not the case. The trouble arises from a confusion of two meanings of "hoarding". When people consider, say, the deflationary effects of hoarding they are talking sound and important sense. But if they are to use the word "hoarding" in the sense we have used it so that it indicates an excess of saving over investment, they should speak of the deflationary effects of "attempts to hoard". These effects are of the utmost importance. They involve a reduction of prices, of profits, of employment, of incomes, of prosperity generally and of many concomitants of these. But they do not involve an increase in hoarding—in our exact sense of increasing the money held—unless the amount of money is increased. It is only saying the same thing in other words to show that an attempt by people to save more than they invest will diminish consumption and incomes and employment, etc., but will never succeed in making saving greater than investment.

We see then that decisions of income receivers as between spending and saving do not affect the aggregate volume of saving but do determine the size of both income and consumption. The difference between them, which is the amount actually saved, is determined by those who decide the size of I (which is equal to the excess of income over consumption because it is that part of income which is not earned in making consumption goods).

If we have given the size of I, we can say that Y is determined by the propensity to save. If we suppose that the amount people save depends only on the size of their income, and that it increases with the size of income, we can see that income must be at that level where the amount people wish to save is equal to I.

As long as income is below this level people will wish to save less than is being invested, i.e. they will want to spend on consumption goods more than is being earned in making consumption goods, and since these two are identical this means that they will *wish* to spend on consumption goods more than they *are* spending on consumption goods. This will lead to increased demand and profits in the manufacture of consumption goods which will lead to an expansion of employment and income until this level is reached. People then wish to save just as much as is being invested, i.e. they spend on consumption goods an amount that is less than their income by exactly the expenditure on (= the earnings in the manufacture of) investment goods, i.e. they spend on consumption goods just as much as is earned in making consumption goods, i.e. just as much as the cost incurred in making consumption goods. There is neither profit nor loss but equilibrium. If employment and income had risen above the level where people wish to save just as much as is being invested, losses would have emerged to bring incomes and employment down again to the equilibrium level where people wish to save just as much as is being invested. S = I. Although there is no mechanism whereby decisions about saving bring about an equal value of investment, which is what makes the equation suspicious, because of the long-standing habit of expecting the influences to work *from* saving *to* investment, *there is* a mechanism whereby decisions to invest bring about an equal amount of saving, which is what makes the equation true. I = S.

From the expenditure on consumption at this level of income we can derive the number of men employed in making consumption goods—for there is a functional relation between this number of men and expenditure on their product. Similarly, from the expenditure on investment goods we can derive the number of people at work in making the investment goods. This gives us the total number of men employed. This number is determined by the amount of investment and the propensity to save (or its complement: the propensity to consume, which is the relationship between income and consumption). The propensity to consume may also depend upon other things, such as the rate of interest. These can be brought in and they fit quite well into the theory, but it is a reasonable simplification to assume that small changes in the rate of interest will affect different people in opposite directions; and the net effect may here be neglected.

There remains to be considered what determines the rate of investment. It is in the analysis of this that some of the more subtle and more valuable innovations in the theory are made by Keynes. Investment consists in the application of productive resources to the manufacture of capital goods. Capital goods are goods which are valuable on account of services they are expected to yield in the future. The efficiency of a capital good, or the rate of return over cost, as Irving Fisher calls this, is the rate of yield of the capital good, i.e. it is that rate of discounting the expected future yields of the capital good which makes the sum of the discounted yields equal to the cost of making it. For example, if it costs £300 to make a machine which gives off two services, one in one year's time which is then worth £220 and one in two years' time which is then worth £121, the efficiency of this machine is 10 per cent., because if the values of the services are discounted at the rate of 10 per cent. down to the present, the sum of their values is £300. ($£220 \times \frac{100}{110} = £200$, $£121 \times \left(\frac{100}{110}\right)^2 = £100$, and $£200 + £100 = £300$.) The marginal efficiency of any particular type of capital good is the efficiency of the marginal item of that type of capital good, in the use where its installation would show the greatest possible efficiency. The marginal efficiency of capital in general is the highest of the marginal efficiencies of all capital goods that still remain to be made.

It should be noted that the marginal efficiency of any capital good is described in the same way (has the same dimensions) as the rate of interest, so that it can be measured against it. It is a percentage of so much per annum. But it must on no account be confused with the rate of interest. The rate of interest is the rate at which money has to be paid for the privilege of borrowing money; or, from the point of view of the lender, it is the rate at which one is remunerated in money for the service of lending money.

There is, however, a certain relationship between the rate of interest and the marginal efficiency of capital. For it will pay entrepreneurs to borrow money in order to increase the rate of construction of capital goods—which is the rate of investment—as long as the rate of interest is less than the marginal efficiency of capital. As the rate of investment increases the best opportunities for investment are used up, and the marginal efficiency of capital diminishes. This happens in two ways As the amount of capital increases, the expected values of the services of new capital goods fall as these have to compete with a larger supply of existing capital goods. This will be a very slow process since the rate at which capital is increased—the output in a short period—is small relatively to the existing stock of capital goods. But the other way in which the marginal efficiency falls is operative in the short period. As the rate of investment increases, the marginal cost of making capital goods increases, and this immediately tends to reduce the marginal efficiency of capital to the rate of interest. For each rate of interest there is a corresponding rate of investment. This relationship is the schedule of the marginal efficiency of capital.

The schedule of the marginal efficiency of capital is sometimes called the demand curve for savings because the entrepreneurs, who undertake the investment and have to obtain the funds to finance it, are conceived to obtain them from the savings of individuals which when summed constitute the "supply" of savings. This is important in so far as it is brought in to explain the amount of invesment that takes place, and upon the amount of investment depends —as we have seen—the amount of employment which is the *quaesitum* of the whole book.

It is clear that the amount of investment undertaken by entrepreneurs in any given position, given the marginal efficiency schedule of capital, will be determined by the rate of interest. The crux of the matter lies then in the theory of the determination of the rate of interest.

According to the classical theory, the rate of interest is given by the supply and demand schedules for savings. The rate of interest is the price of savings and that amount of saving and investment comes about that is indicated by the intersection of these demand and supply schedules. If the supply of savings is greater than the rate of investment the rate of interest will fall so as to bring them into equilibrium and *vice versa*. Savings and investment are brought into equality with each other in an equilibrium by the movement of the rate of interest.

This line of reasoning is not merely wrong—it is meaningless. The equations on page 178 show that the savings can never be different from investment whatever the rate of interest, so that it is nonsense to say that the rate of interest brings them to equality with each other. This can be shown in another way. The supply schedule of savings in this scheme is supposed to be independent of the demand curve for saving (which is the marginal efficiency schedule of capital). This means that, given the rate of interest, the amount of saving is independent of the amount of investment and also of the size of people's incomes. In fact of course it is ridiculous to assume that this is so, for what happens is that if there is an increase in investment, incomes increase immediately so that saving is increased by exactly the amount that investment is increased. The supply curve does not keep still. Whatever the point one takes on the demand curve the supply curve moves to the right or to the left so that it intersects the demand curve at the point taken.

We can now consider the alternative argument, referred to above, which is sometimes put forward in defence of the proposition that any individual, in deciding to save more, thereby increases S, the aggregate amount of saving of the whole society. Instead of assuming that when an individual saves more and spends less on consumption goods the seller of consumption goods continues to receive the same amount as before, so that Y, the aggregate income of society, is unaffected, it is assumed that whenever an individual decides to increase his saving by a certain amount, either he or somebody else always increases investment by the same amount. This increases the incomes of those engaged in the production of investment goods by as much as the income of the producers of consumption goods diminishes, so that Y, the aggregate income, remains the same. C, the expenditure on consumption goods, has diminished, and (Y—C) or S has increased as much as the first individual increases his own saving.

There are two difficulties about this argument. The first is that there is no satisfactory indication of any mechanism in a monetary economy whereby the decision to save necessarily carries with it an instantaneous and equal decision to invest. The second is that if there were some mechanism which did make somebody decide to invest exactly as much as anybody saved, the classical explanation of the determination of saving and investment would be upset in a manner similar to the one we have indicated. This would mean that the investment curve—which constitutes the demand curve for the supply of savings—coincided throughout with the supply curve of savings. At each rate of interest people decide to save a certain amount (supposing for the moment that the supply curve of saving is not shifted about by changes in income due to changes in investment)— and if there is some mechanism whereby an individual's decision to save calls into being an equal amount of investment, *then saving again equals investment throughout (though not for* the reasons given above). There is only one curve, which is both the supply curve and the demand curve for savings, so that the rate of interest remains unexplained.

This argument sometimes takes the form of assuming MV (the amount of money multiplied by its velocity of circulation) as unchanging. This means that the total amount spent altogether both on consumption and on investment is unchanged, so that if £1 less is spent on consumption £1 more must be spent on investment. This assumption is frequently very tacit, and when made explicit it appears in extremely innocent-looking forms like assuming "other things remaining the same" or considering what happens "in the absence of hoarding". This really means that unless something special from outside—"hoarding"—intervenes, we may expect MV to remain constant and that any decision to save will somehow result in somebody investing an equal amount. This criticism of the illegitimate and sometimes unconscious assumption of a constant MV is not Keynes' way of dealing with the argument. He usually refuses to have anything to do with such simple "quantity equations". Dr. Haberler, however, concentrates on this line of attack, which is only a more orthodox (and more complicated) route that leads to the same conclusions as are obtained by Keynes.

There remains unexplained what it is that determines the rate of interest. The explanation of this is given by Keynes, who derives it from the inadequate theories of the Mercantilists by an easy development of a line of thought that had been shut out of economic theory for over a century. This line of thought has only recently been coming back into respectable economics under very heavy disguise in the writings associated with such esoteric concepts as the "natural rate of interest" and "neutral money".

The rate of interest is what people pay for borrowing money. It is what people who have money—cash—obtain for lending it to other people instead of holding it themselves. It is not payment for saving, for one can save without lending the money saved; and in that case one does not get any interest payments. On the other hand one can lend money out of what one previously held; and in that case one gets interest payments without saving. The relevant demand is then the demand to *hold* money. The supply is simply the total amount of money that there exists. This demand schedule Keynes called *Liquidity Preference,* and it is the intersection between the liquidity preference schedule and the supply of money (which is a perpendicular line if the amount of money is fixed) that gives the rate of interest upon which the whole thing depends. The higher the rate of interest the greater the cost—in terms of interest forgone—of holding money and the smaller the amount of money people will want to hold. Conversely, if there is an increase in the amount of money the rate of interest will fall until people want to hold the larger amount of money. They are induced to want to hold more money by the fall in the rate of interest, for then, to some people, the convenience and feeling of security of holding cash can be satisfied to a greater extent because the cost is less.

Our conclusion is that the amount of employment can be governed by policy directed towards affecting the amount of investment. This may be done either by lowering the rate of interest or by direct investment by the authorities. There may be difficulties for institutional or psychological reasons in reducing the rate of interest to sufficiently low a level to bring about that rate of investment which, with the existing propensity to consume, is necessary in order to bring about full employment. It is because of such difficulties that Keynes thinks that public works are necessary, and may become more and more necessary as the wealth and capital equipment of the community increase. For this means that on the one hand people wish to save more out of the larger income corresponding to full employment while on the other hand the accumulation of capital lowers the marginal efficiency schedule of capital. Equilibrium with full employment is then possible only at lower interest rates than are practicable unless either (*a*) investment is increased by State production of capital goods whose efficiency is less than the rate of interest or which for any other reason would not be manufactured by private entrepreneurs, of (*b*) the propensity to save is diminished—consumption increased—by State expenditure on social services or by redistribution of income from the rich to the poor, or by any other means.

The reader may have noticed a considerable similarity between this last argument and the classical argument that was so vehemently attacked on pp. 184 and 185. Here in fact an equilibrium is indicated by the intersection of demand and supply curves for savings. What the argument amounts to is that if for institutional reasons the rate of interest cannot be brought down to the level which equates the supply and demand, the demand curve must be moved to the right or the supply curve to the left until they meet at a level of the rate of interest that *is* practicable. But what was impossible in the classical explanation of the rate of interest is permissible here because for this argument we were assuming full employment in order to be able to consider what are the necessary conditions for that to exist. There is then a given income so that there is a given supply schedule of savings. The criticism of the classical explanation of the determination of the rate of interest is that its argument—in assuming a given supply curve of savings—is implicitly assuming a given degree of employment, namely, full employment. And it is not useful to consider what determines the amount of employment on the assumption that there is full employment—or even to discuss the determination of the rate of interest under those conditions without considering whether in fact there is any force which will bring about full employment.

Keynes' conclusion that the amount of employment has to be governed by operating on the amount of consumption and investment, *via* the rate of interest or otherwise, may seem at first sight to be a very small mouse to emerge from the labour of mountains. Everybody has known that cheaper money is good for business, and so is any increase in net investment or expenditure. But except for occasional lapses from scientific purity to monetary commonsense, *the pundits of economic science have been declaring that people* should practice more thrift. There has been a weakening of this attitude recently—I am not clear to what extent this is due to the cyclical fluctuation in the attitude of economists and how much to the influence of Keynes' ideas and some parallel development by J. R. Hicks and the Swedish writers. But we must not forget that it is not so very long ago that we had Professor Robbins and Mr. Keynes on the wireless respectively advising the world to save more and to spend more. And there is still in Milan a World Institute for the Encouragement of Thrift. It will be a long time before the view that thrift "since it enriches the individual can hardly fail to benefit the community" is seen to be an important example of the common logical error of composition. What Keynes has done is to show that what the ordinary man has often felt in his bones can be justified by a keener analysis than has so far been applied to the problem. He has shown further that it is *only* by working indirectly on these same determinants that any other remedies can ever work.

Thus, even in the case when a reduction of money wages increases employment it does so only in so far as it indirectly reduces the rate of interest. The direct effect is merely to reduce both prices and money incomes, leaving the *real* situation as before. At the lower price level people find that they need less money to carry on their business, so that if there is no change in the amount of money its supply is greater than the demand to hold it, and the attempt of money holders to lend the spare money to others, or to buy other assets for money, raises the value of the other assets and reduces the rate of interest. The reduction of the rate of interest does the trick by making a larger rate of investment profitable. Incomes then increase, in accordance with the propensity to consume, until a level of income and employment is reached which induces people to save at a rate equal to the greater rate of investment. From this it follows that any objections that may be raised against the dangers inherent in lowering the rate of interest in an attempt to increase employment apply just as much or as little to the policy of increasing employment by lowering wages, since that works only *via* lowering the interest rate. It is not denied that there are any dangers, but such as they are, they are inherent in *any* successful attempt to increase employment To run away from these is to refuse to be cured because that will make it possible to become sick again.

To seek the alleviation of depression by reducing money wages, rather than by directly reducing the rate of interest or otherwise encouraging investment or consumption, is to abandon the high road for a devious, dark, difficult and unreliable path, for no better reason than that the dangers that await one at the common destination are more clearly seen when it is approached by the broad highway

CHAPTER XII

Monetary Policy and the Theory of Interest*

HAROLD M. SOMERS†

Many issues, both true and false, have been raised and settled since controversy on that time-worn subject, the theory of interest, broke loose anew in 1936, when Mr. Keynes published his General Theory. Few topics in economics, in fact, have received as varied treatment as has the theory of interest. Few topics, moreover, have resulted in as many divisions of opinion, misunderstandings, vigorous attacks and equally vigorous defenses. Before the publication of the General Theory the situation was confused enough. A serious difference of opinion existed between the two non-monetary sets of interest theories. On the one hand, there was the "subjective" non-monetary theory, currently advocated by Professor Fetter and Professor Pigou, which associated the magnitude of the rate of interest with the individual's time preference; on the other, there was the "objective" non-monetary theory, currently advocated by Professor F. H. Knight, which attributed the determination of the rate of interest to the marginal productivity of capital In between these theories, or, perhaps, over both of them, lay the theory of Professor Irving Fisher and others, which made use of both the subjective and objective elements of the non-monetary explanation of the rate of interest.

Mr. Keynes scrapped the whole non-monetary approach—both the subjective and objective elements—and claimed that the rate of interest was a purely monetary phenomenon. In this he found partial support on the part of students of the business cycle, who felt that monetary factors, although not the only factors affecting the rate of interest, were of considerable importance in its determination. The monetary school soon found itself in two camps. On the one hand, there were Mr. Keynes and his followers, who claimed that interest was a *purely monetary* phenomenon, the rate of interest being determined by the demand and supply of money. Given the amount

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of money, the magnitude of the rate was held to be determined by a subjective factor, liquidity preference, the rate of interest being regarded as the price paid for parting with liquidity. On the other hand, there were Professors Haberler, Hicks, Ohlin, Robertson, Viner, and others, who felt that non-monetary and objective elements as well as monetary and subjective elements determined the rate of interest. At the same time most of the latter group of writers kept insisting that the two monetary approaches were essentially two different ways of saying the same thing.

Thus there existed three controversies at one time: between the subjective and objective non-monetary theories; between the subjective and objective monetary theories; and between the non-monetary theories, on the one hand, and the monetary theories on the other.[1] The first controversy, that between the two sets of non-monetary theories, is still far from settled. Although most non-monetary theorists concede the importance of the productivity of capital, there are some, like Professor Fisher and Professor Pigou, who still insist upon the importance of psychological time preference. The second controversy, that between the two monetary theories, has been settled in a somewhat precarious manner by Mr. Lerner and Professor Hicks, who have given two different, and somewhat contradictory, explanations of the relationship existing between the liquidity-preference and the loanable-funds theories. The third controversy, that between the monetary and non-monetary sets of theories, had been greatly clarified by Wicksell long before the current controversy, but actually remains as far from settlement as ever. In the words of Professor Hicks, "it is a real dispute, in which one side must be right and the other wrong, even if the rightness or wrongness may ultimately turn out not to be absolute, but only relative to particular problems."[2]

This paper attempts to resolve the controversies described above by setting up a system in which all four variants of interest theory—the two non-monetary and the two monetary variants—have a place. It will then become evident under which assumptions or in what sense each variant of interest theory is valid as such. Aside from this it will be shown that all four variants—with some modifications—play an important part not only in the theory of interest but in any theory purporting to describe economic behavior or to explain economic phenomena. To fulfill this purpose it is necessary to examine the various rates of return on economic resources and study the nature of economic behavior in the face of these rates of return. The method employed draws heavily on the works of Wicksell and Professor Fisher, as well as that of other writers. The greatest direct influence, however, has been that of Professor Knight, to whose persistent emphasis on the "fundamentals" may be traced both the origin and execution of this attempt to evaluate the various theories of interest on the basis of the maximization principle.

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[1] This classification does, of course, contain a considerable element of arbitrariness and should not be considered to imply an adequate description of the respective theories.

The above references are confined to a few contemporary authors. No attempt is made here to deal with the history of thought on the subject of interest theory.

[2] *Value and Capital* (Oxford, 1939), p. 153.

I. Rates of Return on Economic Resources

At any point of time an individual has at his disposal (in the sense of "power of allocation to various uses") both his wealth and his income. If we concern ourselves with the income for a finite period, the dimensional difference which exists between wealth (a stock) and income (a flow) need not stand in the way of our considering both together as the resources which the individual has at his disposal for the period. Each purpose to which he may devote his resources—securities, cash, production (including real estate and stocks of goods) and consumption—yields a return to him, either *in the form of subjective satisfaction or in the form of goods or* money. For each individual these resources are usually in the form of money to begin with, but through the process of purchase and sale may be converted into various forms. The nature of the return on resources devoted to each of these purposes will now be examined.

Securities. Resources may be devoted to the purchase of bonds, shares, promissory notes, mortgages, etc., all of which we group together for convenience and call "securities." There are, of course, a great many rates of return on securities, and the rates of return on various types of securities often fluctuate in divergent directions. Where no organized market exists, even securities of exactly the same term years (if any) and degrees of risk may sell at prices to yield various rates of return. There is, therefore, considerable objection to speaking of *the* rate of interest and changes in *the* rate of interest. Even though for many theoretical purposes no real error arises through the use of this concept, it is highly desirable to find some way of making a valid simplification of the interest-rate structure.

Two ways of approaching this problem suggest themselves. One way is to make use of Professor Hicks' analysis of the relation between the long and short rates on fixed interest-bearing claims.[3] This would simplify the interest-structure, as far as the variety of term years is concerned. Then, by making some definite allowance for the risk on each security, measured from some standard security,[4] we could take account of all types of securities. This method, however, cannot readily be applied to shares, which have no term years, and which carry with them immeasurable and non-economic advantages, such as the power and prestige which accompany ownership of a large equity interest in a corporation.

The other method, although fundamentally the same, is much simpler and, for our purposes, more effective. We again choose any security with a fixed return and consider it the "standard security." *Each holder of securities should be able to indicate at what rate of interest on the standard security he would be on the point of indifference as to whether he should sell all his securities and buy a like amount of the standard security.* This rate of return may be regarded as an objective indicator of what the holder of the securities considers to be the value to him of all the objective and subjective returns he expects to obtain from the securities he holds. Likewise there would be a certain rate of interest appropriate to each of the *various* possible amounts of securities any individual might be willing to hold, or buy, or sell. The same sort of relation could be established for the total amount of securities in the hands of all holders of securities, as well as for the total amount supplied on the securities market (demand for loanable funds) and demanded on the securities market (supply of loanable funds). Thus we can draw up demand and supply curves of securities in terms of *the* (standard) rate of interest.

CASH. Some of the resources at the disposal of an individual are ordinarily in the form of cash, which may be held for various reasons. These have been classified by Keynes as the Transactions, Precautionary, Financial[5] and Speculative motives. To the individual or organization holding the cash there accrues a definite return, in so far as the cash fulfills one of the above purposes and thus satisfies a need. This return, though subjective and immeasurable in large part, is nevertheless real and important, since it explains why people are willing to hold cash at all rather than invest it in something yielding an objectively measurable return. So important is this consideration that it is desirable to resort to some sort of expedient to measure the return in units comparable with those in which, for instance, we measure the return on securities, namely, in terms of a certain amount of money per unit of money per period.

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[3] Assuming simple interest, "the long rate is the arithmetic average between the current short rate and the relevant forward short rate." (*Value and Capital*, p. 145.)

[4] This may be *any* security, whether "riskless" or not. There is no reason why the "risk allowances" may not be either positive or negative, depending on whether the security under consideration is more or less risky than the security chosen as the standard. Cf. Kaldor, "Speculation and Economic Stability," *Review of Economic Studies*, October, 1939, p. 16, note 1.

[5] "The 'Ex Ante' Theory of the Rate of Interest," *Economic Journal*, December, 1937, pp. 663-9.

For each amount of cash which a person may be willing to hold (above a certain absolutely essential minimum), there is some rate of interest at which he would be on the point of indifference as to whether to hold that amount of cash or purchase an equivalent amount of securities (i.e. the standard security). This rate of return, which when put in marginal terms is closely related to the marginal rate of substitution between cash and securities, may be considered to be an objective indicator of the subjective satisfaction expected to be derived from holding the cash. This indicator we may call the *rate of return on cash*. For different amounts of cash held there would ordinarily be different rates of return on cash. We can, then, draw up a curve showing the various amounts of cash in relation to the appropriate rates of return. As the need for money can be satiated in greater or less degree, this curve has a downward slope. In a similar manner, we may construct an aggregate curve for the economy as a whole.[6]

PRODUCTION. The use of economic resources for purposes of production (including holding real estate and stocks of goods for a rise in value) stems from the fact that a net return over cost is expected. As in the case of the rate of return on cash, we can obtain an objective measure of the expected value of the rate of return (all the possible rates of return, weighted by their respective probabilities)[7] by ascertaining the rate of return on the standard security at which the individuals or firms involved would be on the point of indifference as to whether to devote their resources to production or to securities (i.e. the standard security). In this way, for each volume of production per period, we can obtain a money measure of the expected *rate of return on production.* The rates of return on production are thus made dimensionally comparable with the rates of return on securities and cash. On this basis we may draw up a curve[8] showing the relation between the various amounts of production per period and the corresponding rates of return. This may be done both for any line of production and for the economy as a whole.

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[6] The line between *cash* and *securities* may arbitrarily be drawn at any reasonable point, as far as the present analysis is concerned. It seems reasonable, for instance, to include demand deposits in cash and time deposits in securities. There necessarily remains a great deal of overlapping, since securities provide liquidity as well as an objective return. This problem may be solved by including in cash only those liquid resources which yield no objective return. We should then regard securities as returning something above the actual interest (or dividends), namely, a liquidity return similar to the return on cash. Since all goods have a certain amount of liquidity, arising out of their salability, we may make a similar adjustment for them, the rate of return on the standard security (now including both the objective interest return and the subjective liquidity return) being used as the base.

The importance of overlapping is emphasized by the fact that securities (and for that matter, all assets) may be used as collateral for a cash loan. Cf. M. Kalecki, "The Short-Term Rate and the Long-Term Rate," *Oxford Economic Papers*, No. 4, September, 1940, p. 15.

At this point it is necessary to make the distinction suggested by Mr. Lerner[9] between the *marginal productivity of capital* and the *marginal efficiency of investment.* This may possibly be clarified by considering a finite period of the sort used above. If we take the amount of capital in existence as given, and then consider the prospective additions to capital during the next period, the marginal rate of return on capital measures the increment in return expected from an increment in the amount of capital existing at this moment; whereas the marginal rate of return on investment measures the increment in return expected from an increment in the total amount

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[7] This statement requires many qualifications, which it will not be possible to consider here. Cf. the notes of Messrs. Dow, Kaldor, Hawtrey, Hart and Shackle in the *Review of Economic Studies,* June and October, 1940

[8] This curve should be considered *net* of an allowance for risk. Whether the risk is an increasing function of the rate of investment, as Dr. Kalecki would have it (The Principle of Increasing Risk," *Economica,* November, 1937, p. 442), is somewhat doubtful in the case of corporations. (See N. S. Buchanan and R. D. Calkins, "A Comment on Mr Kalecki's Principle of Increasing Risk," *Economica,* November, 1938, pp. 455-458; and M. Kalecki, ibid, pp. 459-460. Cf. Kalecki, *Essays in the Theory of Economic Fluctuations,* pp. 98-102.)

Related in some ways to the Principle of Increasing Risk is what we may call the "Principle of Increasing Uncertainty" (making the distinction between *uncertainty* and *risk* along the lines suggested by Professor Knight). The greater the rate of increase in the rate of investment, the more difficult it is for a manager to make an accurate estimate of the possible effects which his investment activities will have on his market. After a certain point the manager has so many investment plans under way that he must allow some of them to be carried to completion before becoming involved in new ones. As Dr. Shackle has pointed out (*Expectations, Investment and Income,* Oxford, 1938, pp. 101-102), this results in the deceleration of investments, the operation of the downward Multiplier, the disappointment of expectations, and thus is a contributing factor in the downturn.

[9] "Capital, Investment and Interest," *Transactions of the Manchester Statistical Society,* 1936-37, pp. 26-31. Cf. O. Lange, "The Rate of Interest and the Optimum Propensity to Consume," *Economica,* February, 1938, p 13 n. and T. de Scitovszky, "A Study of Interest and Capital," *Economica,* August, 1940, pp. 308ff.

of capital which will exist after the contemplated investment has taken place. This total amount of capital consists of (1) the amount *of capital existing at this moment plus* (2) *the* amount of capital to be added by the prospective investment. In this paper the term *marginal rate of return on production* will refer to the marginal efficiency of investment.

Consumption. When we pass to the *"return" on consumption* we are in the realm of the same sort of subjectivity and immeasurability as *when we consider the return on cash.* Again we *must* resort to some method of obtaining an objective indicator of the subjective satisfaction involved.

If we are at the point of indifference between (1) spending $100 on consumption during the coming year and (2) investing it in securities yielding five per cent and thus providing us with $105 at the end of the year, the rate five per cent must indicate the magnitude of the *extra* satisfaction expected from the consumption of $100 worth of goods this year instead of next. We may call this the *rate of return on consumption.*[10] The return on consumption is thus made dimensionally comparable with the return on securities, cash and production. If there is a diminishing marginal utility of consumption, we may expect a downward sloping curve relating the volume of consumption per period to the various marginal rates of return.[11] As in the other cases, we may also have an aggregate curve for the economy as a whole.

Nature of the Rates of Return. Thus we have rates of return on securities, cash, production and consumption.[12] Each of these may be expressed in both average and marginal terms (in which form they are related to marginal rates of substitution between the respective resources and the standard security). Each, moreover, is prospective, *and embodies the expected value of the various possible estimates* of the community as a whole. Although, in some cases, the actual subjective return is nebulous and immeasurable, we are dealing here with something objective and measurable, just as the utility derived from a piece of bread is subjective and immeasurable, while the price paid for the bread is both objective and measurable.

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[10] This may be negative in some special cases. It is understood, of course, that we begin our analysis only after the volume of consumption per period is sufficiently great to permit the possibility of a choice among various uses.

For the relation between the *marginal rate of return on consumption* and the *marginal rate of time preference*, see p. 202.

[11] This curve shows that the greater the volume of consumption per period, the lower is the rate of interest at which a marginal unit of resources will be devoted to securities rather than consumption. This does not imply any assumption regarding the converse relationship, namely, the way in which a change in the rate of interest affects the volume of consumption per period, a subject which is dealt with in Part III.

[12] For most analytical purposes, it would be desirable to subdivide these and have rates of return on bonds, shares, inventories, etc.

II. Fundamentals of Economic Behavior

We must now pass to the behavior of individuals and organizations confronted with these rates of return. It is evident that the maximum amount of return would be derived from that distribution of resources which equates the *marginal rate of return* in every use. securities, cash, production and consumption. As a prelude to the discussion of the theory of interest it is necessary to see to what extent this optimal principle can be, and to what extent it actually is, carried out in the economy by individuals, firms, banks and governments. Since we are primarily concerned with short-run problems, we are interested mainly in whether or not the short-run marginal rates of return are equalized.

Individuals. The individual has before him all four possible uses to which resources may be put: securities, cash, production and consumption (including charitable contributions). In order to maximize the satisfaction he derives from his resources he should devote them to the various uses in such a way that there is equality among all the marginal rates of return.

There are several reasons why this equalization is ordinarily not achieved: the individual may not have the knowledge and experience to estimate some of the rates of return, e.g. the rate of return on production; he may be indifferent to the maximization of his welfare, finding it "rational to be irrational",[13] he may be disinclined to engage in production or to invest in securities, regardless of their rate of return, since he does not wish to gamble, however slightly; he may find the units in which productive resources, securities, and even consumption goods are found to be such that it would, in any case, be impossible for him to equalize the rates of return, even if he wanted to take the trouble; and finally, the organization of markets, with their frictions and other impediments, may be such that it would take a considerable time for him to make the necessary transfers between resources and thus adjust himself to changes in the rates of return.

It need not be assumed, however, that, except in unusual circumstances, the individual would *deliberately* make a transfer among his resources which would reduce the sum total of return derived, i.e. aggravate the discrepancy among the various marginal rates of return. Nevertheless it is true that a discrepancy among the rates may arise and persist *without any ameliorative action on the part of the individual.*

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[13] Cf. F. H Knight, *Risk, Uncertainty and Profit*, p. 62 n.

FIRMS. Business firms, whether incorporated or not, have before them all the above four choices, with the exception of consumption. The alternative of consumption is, however, replaced by that of "drawings"[14] to partners and dividends to shareholders. The question arises, therefore, whether the marginal principle is applied in the payment of "drawings" and dividends.[15]

Drawings of partners are usually determined more by the needs of the partners than by the relative rates of return on the various opportunities open to partnership. As for dividends, there is some evidence to the effect that their distribution is not based on the marginal principle.[16] Since drawings and dividends affect the rate of return on securities,[17] it is evident that this rate of return may get out of line (temporarily at least) with the other marginal rates of return.

BANKS. Ordinary private banks, whether members or non-members of the Federal Reserve System (but excluding the Federal Reserve Banks themselves), may follow the marginal principle in the allocation of their resources between the two alternatives which are ordinarily open to them: (1) holding cash and (2) purchasing securities of various sorts, e.g. making loans to customers, buying industrial and government bonds, etc. The seriousness of the race between profitability (in the form of a return on securities) and liquidity (which expresses itself in the form of a return on cash, arising largely from the Precautionary motive for holding cash) tends to ensure fulfilment of the marginal principle, whether or not the bank manager is aware of the fact. If he attempts to maximize the bank's profit, subject to the condition that he does not jeopardize the bank's position by holding too little cash, he is following the marginal principle, for he is attempting to equalize the marginal rates of return on cash and securities.[18]

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[14] This term, as used here, is defined *net* of any wage or salary element. Sole ownerships may best be considered in the section on individuals.

[15] Whether the internal distribution of resources is in accordance with the marginal principle is not discussed here, owing to the difficulty of deciding to what extent "rules of thumb," made necessary by the impossibility of continuous calculation of every conceivable return, are actually conducive to the maximization of profits.

[16] See Norman S. Buchanan, "Theory and Practice in Dividend Distribution," *Quarterly Journal of Economics,* November, 1938, pp. 64-85, or *The Economics of Corporate Enterprise* (New York, 1940), Ch. IX.

[17] For purposes of this analysis it is best to consider the equity interest of partners in the same category as securities (despite the fundamental legal distinction), since drawings of partners are not necessarily equal to the return on production, and are thus analogous to the return on shares. A more legalistic classification will not, however, affect the general conclusion.

The Federal Reserve Banks, however, do not act on the marginal principle (in the narrow, short-run sense used above), for they are not concerned with maximizing returns. Reserve banks may buy and sell securities for reasons bearing no relation to the marginal principle. Thus the marginal rate of return on securities may fall, through the manipulation of the Federal Reserve Banks, with the result that a discrepancy arises among the marginal rates of return on securities, cash, production and consumption for those individuals and organizations which try to maximize their returns, i.e. follow the marginal principle.

GOVERNMENTS. Governments face even greater difficulties than do individuals in allocating the resources at their disposal in accordance with the marginal principle, particularly because of the difficulty of estimating the rates of return on the various types of (collective) consumption. Sometimes, moreover, there is no desire to maximize the returns to the community, the end being quite different, namely, keeping in power, the marginal principle for which does not interest us here.

In the case of governments important for economic policy, e.g. the Federal Government, a third sort of marginal principle may manifest itself. The government may use its resources to carry out some policy which may only *ultimately* have the effect of maximizing the returns to the community. For instance, the large cash balance of the Federal Government fulfils not only the traditional purposes but also that of monetary manipulation[19] directed towards lowering the cost of new government financing.[20] This has the effect of influencing the current rate of return on securities. As a result, individuals and organizations which try to maximize their returns may find that the equality among the marginal rates of return on securities, cash, production and consumption is temporarily upset.

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[18] This gives us the basis for a distinction between "legal excess" reserves and "economic excess' reserves, the latter existing when the bank's marginal rate of return on cash is below the marginal rate of return on securities. Only the existence of economic excess reserves means that more loans may rationally be granted by the bank.

As banks are usually subject to severe legal limitations in the disposal of their resources, the fulfilment of the marginal principle may be difficult in some cases. This is particularly true with respect to real estate and other physical assets, hence the rate of return on production is not considered above.

[19] Which may, perhaps, be considered a special form of either the Precautionary or Speculative motive.

[20] Cf. Edward C. Simmons, "Treasury Deposits and Excess Reserves," *Journal of Political Economy*, June, 1940, p. 342 n.

SIGNIFICANCE OF AN ARBITRARY MONETARY POLICY. The above considerations illustrate the weakness and at the same time the strength of the marginal principle. In so far as *no* attempt is made to maximize returns, the marginal principle loses significance, and the existence of an "arbitrary" monetary policy[21] has relatively little effect on the various rates of return. In so far as *some* attempt is made to maximize returns, the existence of an arbitrary monetary policy *increases* rather than diminishes the importance of the marginal principle. For the existence of a desire to maximize returns (i.e. the conscious or unconscious attempt to apply the marginal principle) means that whenever a change takes place in one of the marginal rates of return, say the marginal rate of return on securities, adjustments[22] tend to be made in the amounts of resources allocated among the various uses, with the result that changes take place in all the marginal rates of return (barring curves of infinite elasticity). Moreover, that rate of return which is subject to the arbitrary policy assumes unique importance—it sets the pace, or "rules the roost." This fact is of the utmost importance in a discussion of the theory of interest, to which we now turn.

III. THE THEORY OF INTEREST

The points at issue in the interest-theory controversy have been obscured, and the likelihood of an amicable settlement has been diminished, by the fact that some of the disputants and many of the onlookers have misconceived the nature of the difference of opinion which exists. One might, for instance, get the impression from some of the literature that Professor Knight and Mr. Keynes would deny that the term "rate of interest" is correctly defined as the rate of payment for a loan of money per unit of money per unit of time. In actual fact none of the participants in the interest debate has objected to this as a correct *definition* of the rate of interest for a monetary economy.[23] Their sole concern has been with what determines the magnitude of the rate of interest at any time. One group of writers attributes this rôle to time preference, another to the productivity of capital, another to liquidity preference, and another to some or all of these factors combined The present section proposes to examine each of the interest theories with a view to deciding under what assumptions or for what conditions, if any, each theory may be said to hold true. In this analysis the term "rate of interest" refers to the marginal rate of return on the standard security.

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[21] In the sense that allocation of resources is not made with a view to current maximization of returns, narrowly construed.

[22] The actual process of adjustment is complicated by the existence of speculation in stocks of goods and securities. Cf. Scitovszky, op. cit., and Kaldor, op. cit.

[23] Cf. F. H. Knight, "The Quantity of Capital and the Rate of Interest," *Journal of Political Economy*, August, 1936, p. 435; and J. M. Keynes, *General Theory*, p. 186 n.

NON-MONETARY THEORIES: THE MARGINAL PRODUCTIVITY THEORY. The marginal productivity theory attributes the determination of the rate of interest to the marginal productivity of capital. As it is not quite clear whether this actually refers to the marginal rate of return on capital or to the marginal rate of return on investment, the validity of the theory will be examined under both conditions.

If the theory refers to the return on investment—our marginal rate of return on production—it would be necessary to show either that this rate is constant or that it sets the pace among all the rates, i.e. when the equality among them is upset it is always because of a change in the marginal rate of return on production. In either case, there would be an adjustment of the other marginal rates of return, including the rate of interest, to the marginal rate of return on production. The first possibility is out of the question, since the marginal rate of return on production is a function of expectations —which are constantly changing. The second possibility could exist only on the very special assumption that all internal and external changes in the economy act first upon the return on production and only through it on the other marginal rates of return. Under this assumption it would be impossible for the rate of interest to decline before the return on production declines, because no person acting on the marginal principle would ever be willing to accept a lower marginal rate of return on securities than he could obtain on production. Likewise it would be impossible for the rate of interest to lead a rise in the marginal rate of return on production.

Under more realistic conditions it need not be the marginal rate of return on production which sets the pace. The equality among the rates may be upset by the return on cash (e.g. through a diminished need for cash balances in business) or by the return on consumption (e.g. through an increased consumption) or by the return on securities (e.g. through an arbitrary monetary policy). Where the monetary authority changes the rate of interest, for instance, the marginal rate of return on production must be adjusted to that rate.[24] Under such conditions marginal productivity cannot be considered the only important factor which might affect the rate of interest.[25]

It is often claimed that the marginal productivity theory is perfectly valid for "the long run." If this means that in the long run the marginal rate of return on production is equal to the rate of interest, then the statement is rather empty. In "the long run" (presumably after all adjustments have taken place) *all* the marginal rates of return are equal to the rate of interest. But if it means that in "the long run" the marginal rate of return on production sets the pace and all the other rates of return must adjust themselves to it, then the statement holds true only if "the long run" is defined in such a way that independent changes in the other marginal rates of return are ruled out. This would involve the assumption of given tastes, given volume of business, given business habits, etc., for otherwise "long run" shifts in the curves for consumption and cash could take place, thus causing changes in the respective rates of return.[26]

If the marginal productivity theory refers to the return on capital rather than to the return on investment, then the short-run validity of this theory is more questionable than ever. In the short run it is the marginal rate of return on *investment*, not the marginal rate of return on *capital*, which is kept in adjustment with the other marginal rates of return. The return on capital would be the relevant concept only if the rate of net investment were zero. For the long run, what was said in the previous paragraph about the validity of the theory would still hold. In the long run the marginal rate of return on capital may be considered to be the magnitude which tends to be in adjustment with the other marginal rates of return, and one need not distinguish between the return on capital and the return on investment.

NON-MONETARY THEORIES: THE TIME-PREFERENCE THEORY. The time-preference theory associates the magnitude of the rate of interest with the marginal rate of time preference, which is identical with our marginal rate of return on consumption. For reasons analogous to those given in the case of the marginal productivity theory, a time-preference theory of interest is tenable only if we assume conditions where either the marginal rate of return on consumption is a constant[27] or where it alone initiates changes in the rates of return Under realistic conditions, as noted above, the latter assumption can certainly not be held. The former assumption requires some examination.

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[24] In the Wicksellian analysis this adjustment would be brought about by a rise in prices. But this is based on several special assumptions, including full employment Cf. A. P. Lerner, "Some Swedish Stepping Stones in Economic Theory," *Canadian Journal of Economics and Political Science*, November, 1940, p. 582.

[25] Cf. A. E. Monroe, "Investment and Saving: A Genetic Analysis," *Quarterly Journal of Economics*, August, 1929, pp. 594-596, 603.

[26] Cf. Irving Fisher, *The Theory of Interest* (1930), p. 505.

It was assumed in Part I that the marginal rate of return on consumption is an inverse function of the volume of consumption per period. This appears reasonable and is supported by Professor Pigou's recent concession that the marginal rate of time preference may be a function of income.[28] But the satisfaction which an individual—including Professor Pigou's "representative Englishman"— gains from a given rate of consumption also depends in large part upon his ease of mind and freedom from concern over the future. Some people are relatively "improvident," and their marginal rate of return on consumption (to pass to the objective indicator of the subjective satisfaction) is little affected by the amount of their provision for the future. Others are relatively "provident" and experience a great change in the satisfaction they gain from a given rate of consumption whenever, for some reason, the amount of their provision for the future is altered. One way in which the latter can occur is through a change in the rate of interest, since this both changes the rate of compounding of private savings and at the same time affects the capital value of all assets (with opposite effects on private wealth). Thus the marginal rate of time preference may be considered to be a function of both the volume of consumption per period and the rate of interest. It obviously cannot be assumed constant.

There is a further point arising from the above analysis. The time-preference theory has usually been associated with the assumption of a direct relation between the rate of interest and the rate of saving. Actually, however, the concept of a marginal rate of time preference is independent of this assumption. If the rate of interest falls, the marginal rate of time preference will also fall, but this may come about through a *shift* in the consumption curve (with no fall, or even with an increase, in the rate of saving) as well as through a movement along the curve (with a fall in the rate of saving). Which of these factors predominates depends on the relative importance of "provident" and "improvident" individuals. Hence the concept of a marginal rate of time preference can be retained and can be made a useful analytical tool, even though we reject both the time-preference theory of interest and the assumption of a direct relation between interest and the rate of saving.[29]

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[27] This is the assumption made by Professor Pigou in "Real and Money Wage Rates in Relation to Unemployment," *Economic Journal*, September, 1937, pp. 405-422. In the *Economics of Stationary States*, Ch. 10, p. 50 ff., the same theory is presented, except that in the latter place the discussion is in terms of a Robinson Crusoe economy, with the result that the expression "rate of interest" refers to the marginal rate of return on production rather than the marginal rate of return on securities.

[28] "Money Wages in Relation to Unemployment," *Economic Journal*, March, 1938, pp. 134-138. Cf. Fisher, op. cit., pp. 66-68.

MONETARY THEORIES: THE LIQUIDITY-PREFERENCE THEORY. According to the liquidity-preference theory the rate of interest is determined by the "demand and supply of money."[30] There are three interpretations[31] which we may make of this theory. The first interpretation, which many people took to be the correct one, is that the demand and supply of idle balances determine the rate of interest. This interpretation must be rejected, however, even if we grant that the *demand* for idle balances is interest-elastic, because there is no such thing as a *supply* of idle balances distinguishable from the total supply of money

The second interpretation, the one perhaps most widely accepted now, is that adopted by Professor Hicks,[32] namely, that the rate of interest is determined by the *total* demand and supply of money. This is also untenable as a separate theory of interest. Since the total demand for money and the total supply of money obviously determine *all* prices, not only the rate of interest, we can accept this as a theory of interest only if we are willing to take as given all prices other than the rate of interest. But this would leave only the supply and demand of securities as the effective parts of the demand and supply of money in determining the rate of interest. Hence under this interpretation the liquidity-preference theory becomes merely a disguised form of the loanable-funds theory, which says that the demand and supply of securities determine the rate of interest.

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[29] Conclusions based simply on an observation of the relation between interest and the rate of saving are apt to be misleading, since ceteris paribus conditions do not obtain where changes in the rate of interest affect money incomes. Cf. Dan Throop Smith, *Deficits and Depressions* (New York, Wiley, 1936), pp. 75-76.

[30] Cf. Knut Wicksell, *Interest and Prices* (London, 1936), p. 108: "The money rate of interest depends in the first instance on the excess or scarcity of *money*."

[31] The discussion of the first two is based upon an article by Dr. William Fellner and the present writer, "Alternative Monetary Approaches to Interest Theory," *Review of Economic Statistics*, February, 1941.

[32] *Value and Capital*, Ch. XII.

A third interpretation—and the only one under which the liquidity-preference theory can really be considered a separate theory of interest—arises from the analysis in earlier parts of this paper. The total demand and supply of money determine the marginal rate of return on cash, which, through the purchase and sale of securities, is constantly kept in adjustment with the rate of interest. In this way the demand and supply of money "determine" the rate of interest and the liquidity-preference theory comes into its own once more.

Even under this sympathetic interpretation, however, the liquidity-preference theory has definite limitations. If we assume that adjustments among the rates do take place, then changes in either productivity or thrift can affect the rate of interest *directly* (in the sense that it need not act through the demand for cash) by affecting the marginal rates of return on production and consumption and thus the rate of interest.[33] As was previously pointed out, any change in these will result in a mutual adjustment among all four rates of return (barring infinitely elastic curves).[34] The view that the rate of interest may be affected without an immediate change in the demand for cash is reinforced by the consideration that the business of buying and selling securities requires cash balances, just as does the business of buying and selling goods. Where we have an arbitrary monetary policy as well as various frictions and "irrationalities," the rate of interest may even change without an equal change taking place in the marginal rate of return on cash for some time. Under either of these sets of conditions the liquidity-preference theory must be rejected as an explanation of the way in which the rate of interest is determined.

Monetary Theories: The Loanable-Funds Theory. The loanable-funds theorists make use of productivity, thrift, liquidity preference and changes in the amount of money. These factors are considered to affect the demand and supply of loanable funds which, by their interaction, determine the rate of interest. Conclusions derived from their analysis are essentially the same as those obtained above and it is unnecessary to repeat them, particularly since a rather complete description of the theory is readily available elsewhere.[35]

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[33] Mr. Keynes has only agreed that productivity and thrift can affect the rate of interest *indirectly*, i.e through the demand for money. For an account of this controversy see E. S. Shaw, "False Issues in the Interest Theory Controversy," *Journal of Political Economy*, December, 1938, pp. 838-856; and D. H. Robertson, *Essays in Monetary Theory* (London, 1940), Ch. I. Cf. N. Kaldor, *Review of Economic Studies*, June, 1939, pp. 232-235.

An argument running in terms of utility-maximization and showing how the rate of interest could be affected by a direct transfer from production and/or consumption to securities, without immediately affecting the demand for cash, was pointed out to the writer by Professor Howard S. Ellis.

[34] Cf. O. Lange, op. cit., p. 19, and the writer's paper, *Review of Economic Studies*, February, 1940, pp. 136-137.

A possible explanation of the relation between the liquidity-preference theory and the loanable-funds theory arises directly from the above discussion. According to the loanable-funds theory, the rate of interest is determined by the demand and supply of loanable funds. According to the liquidity-preference theory the rate of interest is determined by the demand and supply of cash. These statements are mutually consistent, provided that we interpret the liquidity-preference theory, as above, to mean that the demand and supply of cash determine the marginal rate or return on cash, which through the purchase and sale of securities, is made equal to the rate of interest by a process of mutual adjustment. This explanation of the relation between the two theories resembles that suggested by Mr. Lerner, whose analysis makes it clear that the rate of interest equates the demand and supply of cash only at the point where equilibrium is attained between cash and securities (claims).[36]

VALIDITY OF THE THEORIES OF INTEREST. From the above analysis is follows that every one of the "theories" takes account of factors which must be considered in any discussion of the rate of interest. The time-preference theory gives the leading role to the marginal rate of return on consumption; the marginal-productivity theory gives it to the marginal rate of return on production; the liquidity-preference theory gives it to the marginal rate of return on cash; and the loanable-funds theory deals directly with the rate of interest, the marginal rate of return on securities. To the extent that people act in accordance with the marginal principle, there tends to be equality among all four marginal rates of return. None of them can be ignored, for they all play a part in the adjustment which takes place when the equality among them is upset. It is not difficult to imagine various sets of conditions under which each of the rates would set the pace, thus giving the corresponding "theory" the right to be called *the* theory of interest.

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[35] See Robertson, op. cit., and Gottfried von Haberler, *Prosperity and Depression* (Geneva, 1939), Ch. 8. Cf. J. A. Schumpeter, *Business Cycles* (New York and London, 1939), Vol. I, pp. 123-129, Vol. II, pp. 602-607, and earlier writings.

Davenport's loanable-funds theory is similar to the above, except that although it lays stress on the fact that changes in the amount of money affect the supply of loanable-funds and thus the rate of interest, it does not seem to give a place to the demand for liquidity. Davenport's position among the monetary interest-theorists is secure, however, for he says, "Of only so much as this—which is enough for the present purpose—is the present writer confident: that the problem of the supply of loan fund and of the interest rates paid for loans is, for any given time and situation, rather a banking problem, a question of the volume of circulating medium and the uses for which it is offered, than a question of the aggregate wealth of society, of the source or nature of it, or of the abstinences conditioning the existence of any part of it. Long-time equilibria are no part of the problem of the current supply of funds or of the current interest rates." (*The Economics of Enterprise*, 1913, p. 350 n.)

[36] In Figure 3 of his "Alternative Formulations of the Theory of Interest," *Economic Journal*, June, 1938. For a discussion of other parts of his article, see Haberler, op. cit. It should be observed that Mr. Lerner uses the term *claims* broadly to include all assets other than cash.

In his recent article, "Some Swedish Stepping Stones in Economic Theory" (cited above), pp. 578-579, Mr. Lerner speaks of changing the rate of interest by affecting the demand for or supply of "cash and/or debts."

Where we have an arbitrary monetary policy, however, only the loanable-funds theory fully explains the changes in the rate of interest.[37] By influencing either the demand or supply of loanable funds the monetary authority can change the rate of interest at will[38] The other marginal rates of return then have to follow along as best they can. To the extent that the marginal principle is not fulfilled, there is no assurance that these marginal rates of return will ever actually come into equality with the rate of interest. In such circumstances even the liquidity-preference theory becomes invalid, since the marginal rate of return on cash cannot be assumed to remain in constant adjustment with the rate of interest.[39]

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[37] This is true also of the liquidity-preference theory under the second interpretation, whereby it is merely a disguised form of the loanable-funds theory.

[38] Within the limits set by horizontal segments of the cash, production and consumption curves.

[39] This holds not only for the liquidity-preference theory under the third interpretation. The monetary authority may establish a certain rate of interest through security purchases or sales, but the public may fail to buy or sell a sufficient number of securities to change its cash holdings to the point where the marginal rate of return on cash is equal to the given rate of interest.

CHAPTER XIII

The Changing Significance of the Interest Rate*

HENRY C. WALLICH†

THE growth of the public debt is bringing to a head a trend which has been under way since the early thirties: the weakening of the rate of interest, both in practice and in economic theory, as an instrument for cyclical control of business activity. At the same time, the debt is giving new importance to the interest rate as a factor influencing the distribution of national income, the income of certain groups, and the value of capital assets. In this paper it will be argued that what we have been witnessing is in fact a shift in the main functions of the interest rate. If this be true, we shall have to reorient our thinking, so as to pay less attention to credit stimulation or restriction, by means of low or high rates, and more to the influences of such rates upon the incomes of interest receivers and interest payers and their capital position. In concrete questions of public debt management, the new viewpoint is already becoming apparent. Economic theory, which frequently is running one lap behind practice, may do well to catch up.

Most of the facts and arguments entering into the matter are well known. To this extent, the task of this paper will mainly be to add them up to a conclusion. I shall make an effort to stress the newer positive functions of interest, in order to counter the belief prevalent in some circles that the interest rate as a policy instrument is altogether a has-been. In conclusion, I shall endeavor to appraise the current debate for and against low rates in the light of their changing significance.

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I. *The Great Disillusionment*

Few people today would deny that the stature to which monetary economists in the past built up the interest rate as an instrument of economic control was greatly exaggerated. Idealizing the fair weather experience of the Bank of England before 1914, many of them allowed themselves to be seduced by the analytical elegance of the instrument, probably without having a very realistic appreciation of what really had made bank policy work. For, despite a fairly widespread faith in the effectiveness of the instrument, there was no unanimity as to its *modus operandi*. Was it chiefly through its effect upon the cost of short-term accommodation, or that of long-term investment, or through its impact upon the balance of payments, or perhaps through some other factor? Each group of interest policy enthusiasts was able to bring strong arguments against the beliefs of rival groups. Mr. Hawtrey trying to disprove Mr. Keynes's faith in the long-term rate was only a shade less convincing than Mr. Keynes in disproving Mr. Hawtrey on the short-term rate. Despite these doubts, economists worked out bewildering patterns of interest policies, with varying spreads of rates and subtle variations therein, preannounced and not preannounced, which, in the words of one observer, were more apt to give business men a nervous breakdown than to guide their investment decisions.

Interest in monetary control as an anticyclical weapon was at its height around 1930. Then came a decade of curiously conflicting experiences. In the United States, interest rates declined to very low levels without succeeding in arresting the collapse of the early thirties or in restoring normal activity later on. It was, as Professor Hansen has pointed out, something in the nature of a laboratory test, with very discouraging conclusions for monetary policy. In Great Britain, on the other hand, a more moderate decline in rates was succeeded by a considerable pickup in investment activity. No doubt this could be explained in a variety of ways independently of interest levels. It was believed, nevertheless, that at least the famous British housing boom of the middle thirties was strongly influenced by low interest rates. British experience, therefore, appears to have been less at variance with the hopes of the twenties than American.

This may explain why Keynes continued to regard the interest rate as a major investment factor,[1] although his way of looking at it changed considerably between the *Treatise* of 1930 and the *General*

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[1] "An Open Letter to President Roosevelt," *New York Times* (Dec. 31, 1933).

Theory of 1936. In the later book, the rate of interest ceased to be the willing servant of the monetary authorities and became instead something like a malevolent genie, whose refusal to shrink at their bidding tended to hold back investment. Monetary policy became a one-way affair, to be employed aggressively only when lagging investment called for lower rates. The deliberate raising of rates to curb an occasional boom was to be avoided "like hell-fire" because the rate could not be brought down fast enough in the succeeding depression.

Toward the end of the thirties, a few economists, in search of a new approach to the question of interest costs, did something which to strict theorists must have looked almost like hitting below the belt: they asked business men about it. The reply was, by and large, that interest was a minor element in costs and certainly very far from playing a decisive rôle in investment decisions.[2] Under the combined onslaught of adverse experience, critical analysis, and factual inquiries, the defenders of the interest rate were forced to retire into the relatively unexplored territory of very long-term investment, such as utilities and housing. Even there, however, their position remained insecure, because it was pointed out that over very long investment periods uncertainty tended to become so great as to obscure neat profit calculations based on money costs.[3]

Today the inflationary pressure prevailing in this country, which stems both from the physical consequences of the war and from the manner of its financing, has once more turned our eyes toward interest policy as a means of boom control. The debate has been lively, but for practical purposes the conclusion seems inevitable that in this direction, too, the potentialities of monetary policy have become very limited. Obstacles which stand in the way of really effective monetary boom control have frequently been analyzed; today such obstacles are more numerous and less surmountable than ever, owing to the situation created by our public debt. A particularly effective statement of the case is that by Professor Seltzer in his article "Is a Rise in Interest Rates Desirable or Necessary?" in a recent issue of the *American Economic Review*.[4] Briefly, the conclusion is that a mild rise in interest rates would probably do little to restrain expansion, and by a very severe tightening of credit might overshoot the mark and perhaps throw us into a downward spiral, while also producing serious repercussions in other directions. Thus, both as an anti-depression and an anti-inflation device, traditional interest policy appears to be stymied.

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[2] *Cf.* J. E. Meade and P. W. S. Andrews, "Summary of Replies to Questions on Effect of Interest Rates," *Oxford Econ. Papers*, No. I (Oct., 1938), pp. 14-31; J. F. Ebersole, "The Influence of Interest Rates Upon Entrepreneurial Decisions in Business," *Harvard Bus. Rev.*, Vol. XVII, No. 1 (Autumn, 1938), pp. 35-39.

[3] J. R. Hicks, *Value and Capital* (Oxford, 1939), pp. 225-226.

[4] Vol. XXXV, No. 5 (Dec., 1945), pp. 831-850. Also see Alvin H. Hansen, "Stability and Expansion," in *Financing American Prosperity* (New

The weakening of the case for cyclical interest rate policy leaves, however, the possibility of a secular approach. If interest rates are not strong enough to control booms and depressions, they may nevertheless be sufficiently powerful to affect the general trend. If, in the long run, *stagnation is more likely than inflation, low interest rates* may go at least part of the way in combating this tendency. This, I believe, is the main economic argument employed by the public debt authorities in defense of their low interest policy, the emphasis on budgetary savings being resorted to more for its political appeal.

There is disagreement, of course, regarding the major premise of the case—do we really face a secular stagnation trend? A majority of economists, however, if pressed, would perhaps subscribe to the view that stagnation is more likely than overactivity, if one or the other extreme is to prevail. But then a second issue remains to be raised: If rates are permanently low, will they have the same stimulating potential as *falling* rates? Or is the effect of lowered rates likely to be strong at first and diminishing later on? On the degree to which low rates retain their stimulating potential depends their value as a long-run weapon.

A high rate, in so far as it has any investment effects, prevents the making of certain investments. But what happens to these unfulfilled investment opportunities? Are they lost forever, or will they gradually become feasible even at the higher rate, through technological progress, internal capital accumulation, rising demand? Whenever investment opportunities are of the latter type, a lowering of rates will merely advance the day of their realization but will not add to the total. There would be an immediate bunching of investments, but soon this would slow down to the old pace, much as in the case of a shift to the pay-as-you-go income tax. On the other hand, where investment opportunities do not gradually tend to move up into the "feasible" category, they will be lost unless rates are

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York, Twentieth Century Fund, 1945), pp. 250-255, and my article, "Debt Management as an Instrument of Economic Policy," *Amer. Econ. Rev*, Vol XXXVI, No. 3 (June, 1946), pp. 292-310.

lowered. In that case a lowering of interest rates will bring an enduring *increase in the amount of investment per unit of time.*

One can easily visualize investment opportunities of both types. Which of the two is more frequent would be hard to say. But I suspect that those which eventually are realized in any case are sufficiently numerous to put a considerable dent into the case for permanently low rates as an investment stimulant.

If the effectiveness of lower interest rates diminishes with time, the timing of the operation becomes important Lower rates would have to be regarded as ammunition not to be wasted prematurely. It seems, therefore, that a policy of lowering rates now would not only aggravate needlessly the existing inflationary trend, but might also impair their effectiveness later on.

We may conclude that, on the whole, the case for permanently low long-term rates has merits, if we are willing to regard stagnation as our primary long-run danger. These merits, however, can easily be over-stated and a further rate reduction now might defeat its own longer-run purposes.

II. *The Availability of Money*

While the interest rate was slowly deglamorized, another train of thought was being pursued which centered on the availability of money, in contrast to its cost. It seemed as if the arguments serving to minimize the weight of interest costs in business decisions were proving too much. If they contained the whole truth, the wonder was not that the monetary policy had worked poorly, but that it had worked at all. Observation of the practices of bankers and security underwriters confirmed the suspicion that the price of money was by no means the only factor determining its supply. On the contrary, it became apparent that deliberate rationing, risk elements, and plain deficiency of organization interfered so much with the "perfection" of the market that the interest rate might be regarded more as a *symptom* of the availability of money than as the truly causal factor regulating supply and demand.[5]

This trend of thought deserves to be pursued a little further. For while it is in a sense destructive of traditional interest rate theorizing, it also throws light upon some new approaches to monetary policy. We shall survey the factors which limit the availability of money under the three headings already mentioned: (1) rationing, (2) risk, and (3) *deficient organization. Each one plays a distinctive* rôle in the credit picture which may often outweigh that of the interest rate.

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[5] *Cf.* Keynes's comments on the "unsatisfied" fringe of borrowers" in the *Treatise*, Vol. II, pp. 364-367; J. R. Hicks on the availability of money, in "Mr. Hawtrey on Bank Rate and the Long Term Rate of Interest," *Manchester School*, Vol. X, No. 1 (1939), p. 35; and F. A. Lutz, "The Rate of Interest in a Dynamic Economy," *Amer. Econ. Rev.*, Vol. XXXV, No. 5 (Dec., 1945), pp. 828-829. I am greatly indebted to Mr. H. V. Roelse for his observations on the importance of availability.

A. *Rationing.* In the good old days of discount policy, it was often observed that a raising or lowering of the rate tended to tighten or ease credit more than in proportion to its immediate effects upon *the banking position, by virtue of its psychological influence* In the action of the central bank, bankers could read the underlying motives, saw the authorities' appraisal of the business situation, and found indications of future official policy. It was natural that, in anticipation, they should react not only by changing their rates, but also by trying to bring about the desired contraction or expansion by direct action upon loan applications. This propensity would be intensified, in the United States, by the bankers' distaste for remaining in debt to the Federal Reserve. "We're sorry, our funds are fully invested" was a perfectly good answer to a not-too-good client, particularly in the days before the habitual presentation of the borrower's statement, when insistent requests for loans were more apt to cause an unfavorable impression. The same action to expand and curtail loans, *accompanied* by but only in part *effected* through changes in rates, would be natural if the banker's own views of business conditions should take a more cheerful or more skeptical turn.

Similar procedures are common in the long-term capital market. Underwriters become more hesitant when they anticipate a drop in security prices, since to see an issue decline sharply soon after its sale is not a pleasant experience for the banker. Thus, the supply of credit can be varied rather substantially by direct action, without the large changes in interest rates which probably would be needed to equate supply and demand.

How far monetary policy owes its effects to its influence over the "rationing" practices of lenders, as contrasted with the pure cost effect of higher or lower interest rates, is of course hard to say. One may suspect, however, that the rationing element is the more important one. To the extent that this is true, one might argue that even today, when interest rate manipulation as such seems to be a less promising means of control than ever, central banks could achieve something by its means if the business community accepted it as an implied official forecast of business conditions. All things considered, however, this, too, seems rather a forlorn hope, for the voices of central bankers today are apt to be only part of a large official chorus, or else crying in the wilderness.

B. ***Risk.*** A second non-interest factor which greatly influences the availability of credit is risk. All interest rates—except perhaps those paid by a few governments in their own countries—include a premium for credit risk in addition to the liquidity preference premium. Attempts have ben made to interpret all and any obstacles to the free flow of credit as due to a risk premium—including failure of would-be borrowers to get any money at all.[6] This, however, appears to be a little strained. A specific recognition of other circumstances which may interfere with the free flow of credit, such as over-all rationing or lack of organization, seems preferable.

The level of the risk rate varies, of course, with the credit of the borrower. Moreover, the premium which the less-than-gilt-edged borrower must pay may take forms other than interest, such as an inconveniently short maturity, or surrender of a share in control. Also, in the case of non-negotiable loans, there may be a subjective element in the risk premium reflecting the familiar principle of increasing risk, *i.e.*, the fact that the lender's apprehensions rise with the proportion of his capital tied up in a single commitment. For large banks, where this aspect is less important, one may suggest that the risk rate, on average, ought to be reflected by the loss ratio over a period of years.

In the case of negotiable loans, holdings can be spread over a sufficiently wide number of people to avoid running into the principle of increasing risk. Here the discount from the yield on governments might be regarded as a measure of the risk rate. It must be added, however, that this allowance may be less than the true risk factor. In the lower grade bonds, the risk of loss is in some measure offset by the possibility of appreciation, if the borrower's credit should prosper. To that extent lower grade bonds partake of the character of equities, whose yield usually does not differ from that of bonds because the much greater risk is balanced by chances of gain.

The following table shows the level of the "pure" interest rate (long-term governments) contrasted with the average yield on bonds carrying A and B ratings, respectively, and the proportion of these yields which is accounted for by the risk rate.

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[6] *Cf.* the discussion of this question by Arthur W. Marget, *The Theory of Prices* (New York, 1938), pp. 222-227.

TABLE I—"PURE" LONG-TERM RATE AND RISK RATES[1]

Year	Long-Term Government Bond Yields[2]	Grade A Corporate Bond Yields[3]	Risk Rate on A Bonds[4]	Grade B Railroad Bond Yields[3]	Risk Rate on B Bonds[4]
1929	3.60	5.28	1.68	7.61	4.01
1932	3.68	7.20	3.52	9.39[5]	5.71
1936	2.65	4.02	1.37	6.60	3.95
1938	2.56	4.22	1.66	9.87	7.31
1945	2.37(1.66)	2.87	.50(1.21)	4.47	2.10(2.81)
Dec. 1945	2.33(1.51)	2.79	.46(1.28)	4.23	1.90(2.72)
Apr 1946	2.08	2.69	.61	4.22	2.14

[1] Annual average yields except in December, 1945 and April, 1946, when they are monthly averages.

[2] Long-term government bond yields assumed to represent "pure," *i.e.*, riskless rate. This "pure" rate is best represented by the yield of fully taxable long-term government bonds. However, as no fully taxable bonds were issued prior to March, 1941, the yields of partially tax-exempt long-term government bonds had to be used prior to that date As a result the yields for that period *combine with the "pure" interest rate as an inseparable element formed* by the advantage of partial tax exemption. It is felt, however, that the results are acceptable in principle since the lower tax rates of earlier years make the partial tax exemption relatively unimportant It should be noted that even the "fully" taxable government bonds are exempt from state taxation. Bracketed figures continue the partially tax-exempt series

[3] Moody's Grade A corporate bond yields have been used, representing a high-grade, relatively stable series As no composite corporate series with a rating below Baa exists for the period in question, Standard and Poor's Grade B Railway bond yields were chosen as typical of a relatively low-grade and volatile series.

[4] Risk-rate: premium paid over and above pure rate

[5] No composite data exist for 1932 *owing to the very small number of* issues which paid interest during the year The yield for December, 1931, was used instead.

Sources: Board of Governors of the Federal Reserve System, Standard and Poor's Current Statistics.

The data indicate, as one would expect, that the risk rate is determined in varying degrees by business conditions and by the level of the interest rate itself. The lower the grade of the securities, the wider is the fluctuation in the risk rate, to the point where its swings quite outweigh those of the pure rate. And when a low pure rate coincides with good business conditions, as in 1936 and particularly at present, the risk rate is driven down sharply because investors hard pressed for income are forced to take bigger chances in order to get a satisfactory yield.[7]

But the effect of the risk element goes beyond the charge which it imposes upon the borrower. For when it becomes too large, it may altogether prevent the granting of credit. At any time there is a more or less conventional range of rates on loans, negotiable and otherwise, which limits the maximum risk premiums that can be arranged for. Banks and investors usually prefer not to become involved in dubious situations, even if they believe their actuarial risk to be adequately compensated for At present, for instance, it is hard to think that debentures with a 7 per cent coupon could be marketed, although there are probably enterprises which would be willing to pay such a rate But if their credit is so poor that such a risk premium would be called for, then they simply cannot get the loan. They may be able to resort to stock financing, or to the sale of convertible senior securities, but in many instances their access to the capital market may be effectively barred[8] This is particularly apt to happen during depressions. The data of Table I show, for instance, that grade B risks could not possibly have been floated in 1932-34 or in 1938.

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[7] *The extraordinarily* small spread now prevailing between Aaa and A grade bonds, however, is to some extent due to the fact that the former are mostly held down by their call prices and that the latter tend to benefit from this technical situation.

This brings us to the following conclusions regarding the effect of risk upon the availability of credit.

1. In so far as risk can be compensated by paying a premium over the pure rate, it results in an additional cost. The considerations which apply are the same which are applicable to pure interest costs, *i.e.*, the risk premium to be paid probably does not weigh heavily in most business decisions.

2. In so far, however, as the risk element prevents financing altogether, or allows it only under very favorable conditions, it may constitute a serious obstacle. This is all the more important because of the cyclically perverse fluctuation in risk, which makes it largest when credit expansion is most needed.

3. The tendency of the risk rate to be driven down sharply by a combination of low riskless rates and good business conditions injects an additional element of instability into the economy. Actuarial risks may be inadequately covered, so that banks as well as institutional and other investors may find themselves in a weak position in the next depression.

C. *Deficient Organization.* The failure of many sectors of the money and capital markets to respond to the easy money policy of the thirties drove home the fact that these markets are not nearly so fluid as sometimes assumed. Hence the profusion of credit agencies created by the federal government during those years in an earnest if not very well-coördinated effort to make money available to neglected and otherwise ill-favored borrowers. That this problem today is far from solved, is shown by the high cost of credit in some small town and rural areas and by the persistent clamor for better capital financing facilities for small business.

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[8] *Cf.* the comment of H. C. Sonne, in a debate with Professor Samuelson, that present low rates tend to cut off smaller firms from long-term credit. "Is the Easy Money Policy a Sound One?" *Modern Industry* (Jan. 15, 1945), pp. 113-126.

D. *Conclusion Regarding Availability.* The foregoing discussion confirms the view that the availability of credit, governed by credit rationing, risk, and organization, is in many respects more important than the interest rate as such. Such successes as monetary policy has scored in the past appear to have been due more to the rationing of credit than to changes in its cost. On the other hand, part of the failures of monetary policy have probably been ascribable to the perverse action of the risk factor and the sluggish response of the remoter sectors of the market. If monetary policy is to be revitalized, therefore, the most promising approach would be, not by way of attempting to "regain control of interest rate," but by obtaining some measure of control over risk factors and over the rationing process, and by improving the market.

This points, of course, in the direction of qualitative controls, in which a number of hesitant steps have already been taken. Guarantees of mortgages through FHA, of certain export credits through the Export-Import Bank, of V loans through the Federal Reserve, of GI loans through the government, and of foreign loans through the International Bank, are attempts to cope with the risk problem. Regulation of down payments for consumer credit and variation of margin requirements for stock exchange loans (regarded by many as little effective), aim at availability from another direction. The creation of official lending agencies, to overcome deficiencies of the market, has already been mentioned. These measures are capable of extension to other fields, and new ones deserving of study have frequently been suggested.[9] By thoroughly exploiting these new approaches, and by coördinating their application, a new form of monetary policy could evolve. This rejuvenated instrument would rely only to a minor degree upon interest rate variations, which would thus quite frankly relinquish their credit control functions and could be employed more effectively to fill the newer rôles which the interest rate is acquiring in our economy.

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[9] *Cf.* Alvin H Hansen, *op. cit.*, pp. 252-255.

III. *The Allocation of Capital*

So far we have been concerned with the increasing impotence of the interest rate as an instrument for controlling over-all investment. Attention remains to be drawn to its likewise increasing deficiency as a selector of investment projects.

Under idealized conditions, the interest rate serves to channel a scarce resource, savings, to the most effective uses. Today, however, this is very questionable. In the first place, this function becomes superfluous in an economy where the supply of savings tends to outrun the demand. As to whether and to what degree this is the case in our present economcy, everybody is entitled to his private opinion. In the second place, the interest rate is doing an increasingly poor job in the allocation of capital even under conditions of full employment. Business savings obviously are beyond its control; they tend to be invested, if at all, in ventures similar to those by which they were generated. Moreover, when internal savings are insufficient, established businesses can get outside funds on the strength of their general credit standing, which now leaves new firms at an enormous competitive disadvantage. As new business investment has come to be carried out increasingly by old firms, the selectivity of the interest rate has become progressively impaired. Finally, it may be noted that government action has also interfered with the allocation function of the interest rate. Guarantees for certain loans and tax exemption for municipal and state bonds may be mentioned as examples without implying any criticism of this type of interference.

IV. *Interest in the National Income*

In the preceding sections, we have traced the decline—though perhaps not the fall—of the rôle of interest as a regulator of investment. We now come to the positive part of the argument: the increasing importance of interest as a national income factor. This increase is in part a relative one, resulting from the de-emphasis of the interest rate's other and more spectacular functions. In part, however, it is also a more positive phenomenon.

Interest payments and the interest rate have several aspects as income factors. One is the total volume of such payments and its relation to total income. Another is the influence of interest payments upon the distribution of income. A third is the much debated influence of the interest rate upon saving. Fourth, there is the effect upon the capital value of assets which results from a change in rates. These and various others will now be discussed.

A. *The Volume of Interest Payments.* To begin with, we shall study the total volume of interest payments in our economy. Many forms of income which economically have their origin in interest, are not actually received in that form. Of the return on invested capital, for instance, a part should be regarded as interest, in the light of distribution theory, but in practice this part is hopelessly mixed up with profit, distributed and otherwise. Much the same is true of rent. The problem is complicated by the interest receipts of business, financial and non-financial intermediaries, which often do not pass on this interest in the same form.

On the other hand, there are certain interest receipts by business which are really payment for a service, *i.e,* for out-of-pocket costs. In the absence of such interest receipts, these businesses would have to make other charges. Services rendered by banks are the most obvious instance. One may reasonably argue that interest receipts covering such services are not economic interest in a full sense.[10]

A calculation of economic interest in the national income, made in a very rough manner for the year 1945, yields an estimate of 12 to 14 billion dollars. This includes (1) interest on the federal debt at the computed rate, but excluding part of the payments to banks, regarded as compensation for services, (2) other interest in accordance with an adjusted version of the present Department of Commerce series, admittedly not a very perfect one, (3) an allowance for the imputed interest element in the return on the net worth of corporations, at a rate of 2¼ per cent, and (4) a similar allowance for the interest element in profits of unincorporated business, in farm income, and in rent. The total thus derived represents the aggregate of *economic* interest payments in the national income, but it should be regarded, not as a statistical computation, but as an indication of the order of magnitude of these payments. In a sense, the estimate is a "test of significance," indicating, in my opinion, that interest plays an important rôle in the national income, much more so than would appear from the volume of contractual interest payments.

The size of a 12 to 14 billion interest payment in 1945, measured against the 160 billion national income, is perhaps not particularly impressive. Nevertheless, it is as much as the net income of agricultural proprietors during that year. Moreover, these 12 to 14 billion interest payments were brought together at very low rates.

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[10] The grounds on which the Department of Commerce excludes interest receipts of most businesses from its national income series on interest payments are somewhat different.

While a rise in rates would have little immediate influence on long-term interest payments, with the passage of time it would be reflected to an increasing extent in contractual and imputed interest payments. At the rates prevailing in 1929, after these had had time to become effective, total interest might be something like 18 to 20 billion, or about 12.5 per cent of a 150 to 160 billion of income.

A further drop in rates from today's levels, on the other hand, would be reflected more rapidly in payments, since many outstanding obligations would be refunded. It is evident, therefore, that variations in interest rates are quite capable of producing substantial variations in this sector of national income.

Whether or not the relative importance of interest in the national income has increased over earlier years is a different question. Tentative calculations seem to indicate that the proportion of interest to income today is lower than in 1929, for instance. But this is due primarily to the prevailing low level of rates, which might not be permanent. The base upon which interest payments rests, *i.e.* the total volume of debts plus other income-earning assets to which interest may be imputed, probably is larger today relative to income than it was in earlier years, thanks to the growth in the public debt. One might therefore argue that potentially, *i.e.*, if rates should rise, interest seems to be more important today than formerly. But the likelihood of a return to rates like those of 1921 has fallen as the debt has risen, for obvious reasons, and a summary statement about the importance of interest payments relative to earlier years therefore is hardly possible.

B. *Redistribution of Income.* Who pays this interest and who gets it? Government interest is paid out of taxes, most other interest out of production. In either case it is clear that the fact that some individuals receive interest reduces the income retained by or received by others. (This does not dispute in the least the economic or social justification of interest; it merely follows from the principle that "the more there is of mine, the less there is of yours," once the size of the pie is given.) The second group, therefore, are the "interest payers" in an ultimate sense, even though most of their payments take the form, not of contractual interest, but of higher taxes and of lower wages, lower profits, and higher prices. As to the distribution of the burden among profits, wages and prices, one would expect the latter two to absorb most or all of it in the long run. In the short run any variation in interest costs, contractual and *imputed*, may impinge primarily upon profits. Eventually, however, such gains are apt to be competed away and cost increases to be passed on.[11] Very probably this process of competing away and passing on moves more rapidly in the case of out-of-pocket interest costs than with respect to the pure interest element imputable to profits. But in the long run, it seems to be true that business profits move in the same direction as the pure interest rate, so that variations in the latter are not merely absorbed by counteracting variations in the former, but carry over into prices and wages.[12]

Thus the payment of interest, public and private, obviously, makes the distribution of income different from what it would be otherwise. It is not quite accurate to speak of this as a redistribution of income, since interest, at least that on private debt, is a return to a productive factor and hence part of the original distribution of income. The use of the term "redistribution" in the present connection must be understood with this qualification in mind.

Unfortunately, it is not possible to make a good estimate of the degree of redistribution, since we lack sufficient data on the ownership of interest-earning assets which would be needed to estimate the interest received in each income bracket There is no doubt that the great majority of the population participates in the ownership of assets to some degree, through insurance policies and savings deposits, if not through securities. The interest income of members of the lower-income brackets, however, is obviously a much smaller proportion of their incomes than that of wealthier people, since the latter are able to save more and in some cases are born wealthy.

As for the amount of interest *paid* by individuals in different income brackets some rough estimates can be made. For the interest on the federal debt, I made an estimate in one of the Federal Reserve Postwar Studies, on a *per capita* basis.[13] This estimate rests on an assumed tax structure outlined in the same publication by Richard A. Musgrave. Conclusions based on Mr. Musgrave's tax system hold fairly well for our present system, since the two do not differ too much in their degree of progressiveness. These figures are computed in Table II to eliminate interest paid to government trust funds and part of that paid to banks, which we have previously defined as a payment for services. They show that an individual's contribution to the federal debt service rises much more than in proportion to his income, owing to the progressive character of the tax structure. As far as the federal debt is concerned, therefore, the greater interest content in high-bracket incomes is to some extent balanced, conceivably even overbalanced for some brackets, by tax contributions to the debt service.

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[11] On the effect of present day low interest rates on the cost structure, *cf.* Albert H. Hahn "The Interest Rate Dilemma," *Commercial and Financial Chronicle* (Apr. 18, 1946), p. 2131.

[12] Cyclically, of course, this tends to be obscured by the fact that high interest rates during the boom phase are usually associated with high wages and prices.

[13] *Op. cit.*, p. 90.

Of the interest payments other than on federal debt contributed at given income levels, a very rough idea can be formed by calculating the proportion of total private interest payments to national income, which for 1945 amounts to 6.2 per cent, and by assuming, therefore, that 6.2 per cent of the price of everything that is bought goes for interest. The non-federal "interest payments"—we shall call them "private," although they also cover the state and municipal debt—of any person would then be 6.2 per cent of the volume of his purchases. (This result does not differ very greatly from what would be obtained by assuming, more realistically, that part of the interest burden falls upon wages instead of upon prices.) In Table II, the volume of private interest payments at different income levels is given in accordance with what seems a plausible estimate of the propensity to consume at these levels, with certain adjustments.[14] Obviously these figures have meaning only as an indication of orders of magnitude, not as precise estimates, and their usefulness is chiefly that of tests of significance. From these figures it appears that the burden of private interest falls more heavily upon people in the lower-income brackets. In other words, private interest is financed by something akin to a sales and payroll tax, and the results are correspondingly regressive.

By adding together the contribution to federal and private interest, we obtain the total interest burden at each income level. Table II shows that this burden is practically proportional to income, over the 1,000 to 10,000 dollar range. While this conclusion must be accepted with considerable reservation, it is nevertheless an interesting one. Worthy of observation is also the fact that it is the outcome of two conflicting tendencies: the progressive character of the federal interest burden and the regressive one of the private interest payments. A major shift in the proportion of federal and private interest might bring one or the other tendency to predominance.

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[14] These adjustments try to take into account the fact that a part of saved income, too, is directly or indirectly employed in the purchase of goods whose price contains an interest element. They also try to take into account the fact, working in the opposite direction, that many of the goods consumed chiefly in the higher brackets appear to contain relatively less interest.

Having thus worked up a rough sketch of the incidence of the interest burden, we can draw even rougher conclusions as to the character of the redistribution of income produced by the interest flow. Although we do not know what proportion interest receipts constitute of income at different levels, it is obvious that it is an increasing one. Everybody agrees that the relatively rich save a larger proportion of their income than the relatively poor, which means that their interest receipts must also be a larger proportion.[15] The results of the recent Federal Reserve survey of liquid assets amply confirm this belief.[16] Thus, interest levied with a roughly proportional incidence upon the various brackets is received predominantly in the higher brackets. This clearly makes for greater inequality in income distribution than would otherwise prevail.

TABLE II.—PER CAPITA "INTEREST PAYMENTS" AT DIFFERENT INCOME LEVELS

Income before Taxes	Contribution to Federal Interest[1]	Per Cent of Income	Other Interest Payments[2]	Per Cent of Income	Total Interest Payments	Per Cent of Income
$ 1,000	10	1.0	68	6.8	78	7.8
2,000	20	1.0	121	6.1	141	7.1
4,000	116	2.9	201	5.0	317	7.9
6,000	238	4.0	265	4.4	503	8.4
8,000	376	4.7	321	4.0	697	8.7
10,000	544	5.4	373	3.7	917	9.2

[1] Adapted from table "Contributions of Taxes to Debt Service Under Assumed Postwar Tax System" in author's "Public Debt and Income Flow," *Public Finance and Full Employment*, Postwar Econ. Stud. No. 3 (Board of Governors of the Federal Reserve System, 1946), p. 90. Based on federal interest payments at computed rate aggregating 4.6 billion dollars, which excludes a part of payments to banks; see text.

[2] Computed by applying the proportion of non-federal interest payments to total national income (6.2%) to the estimated expenditures at various income levels.

The fact that interest payments in the various brackets are virtually proportionate to income suggests that the additional inequality of income distribution produced by the interest flow is not so large as sometimes seems to be assumed. Nevertheless, this "redistribution" via interest is worthy of attention, particularly in view of the effect which long-run changes in interest rates would have upon its magnitude.

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[15] In addition, many people are rich precisely by virtue of their large interest incomes, quite independently of whether they save much or little.

[16] "National Survey of Liquid Assets," *Fed. Res. Bull.* (July, 1946), pp. 574-580.

Obviously, there are certain social implications in the impact of interest upon income distribution. An increase in rates, unless accompanied by a rise in total income, would be quite a setback to the inhabitants of the lower brackets. To a man with a 2,000 dollar income, a rise of long-term rates by one full percentage point might eventually mean an added interest burden close to 50 dollars annually, once all adjustments have worked themselves out. The compensatory gain in interest receipts would make up for some of this, but, in the average case, certainly not for all. At a 4,000 dollar income, the extra gross burden might be around 100 dollars, but the degree of compensation through higher interest receipt would be better.

Certainly these added burdens are too small to stand in the way of a higher interest rate policy if its adoption seems important for other reasons. But in the absence of such reasons, there is at least something to be said for low rates on the grounds of social equity.

V. *Saving and the Interest Rate*

Disquisitions about the supposed effect of the interest rate upon saving are apt to be shrugged off as inconclusive, unimportant, and rather tedious withal. Stimulated by the painful pressure of falling rates, however, the subject has just recently come to life in various quarters, most conspicuously in comments about the rising cost of life insurance.[17] It may therefore be worthwhile to discuss the matter in the light of the quantitative estimates made above of the volume and distributive effects of interest payments.

In the first place, it needs to be pointed out that, as long as permanent full employment is not assured, there is a strong tendency for the total volume of saving to be determined by the volume of investment, plus or minus the net balance of payments and the fiscal deficit (or surplus). It is only at full employment that the savings which the public is willing to make become a limiting factor; below that they largely tend to adjust themselves, through fluctuations in income, to the level which is indicated by the demand for them.

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[17] *Monthly Letter of the National City Bank of New York* (June, 1946), pp. 69-70; *103rd Annual Report to Policyholders for the Year 1945*, Mutual Life Insurance Company of New York, p. 4; Ludwig von Mises in an unpublished address at a symposium on postwar interest rates, under the auspices of the National Industrial Conference Board, May, 1946.

(This does not rule out that in many instances savings do "cause" new investment, but I doubt that quantitatively these instances are very important.) Thus the immediate answer to the question of the effect of the interest rate on saving is that it depends mainly on the effect of the interest rate on investment.

Of course this is not what we are really after. The real question is the effect of the interest rate, not on realized saving, but on the *propensity* to save. Now as far as the *incentive* to save out of a given income is concerned, most economists probably would agree that the interest rate is immaterial within a wide range. The price effect, in other words, seems small. Any substantial influence must come from the income effect of a higher or lower rate But here, too, results at first sight seem inconclusive. For while low rates undoubtedly hamper saving by reducing the income on past saving, they do, on the other hand, put additional pressure to save on prospective annuitants, aiming at a given retirement income The net result may be either way.

It has been argued (most illuminatingly by Professor Cassel)[18] that at very low rates rentiers would find it so hard to live on their incomes that large-scale capital consumption would ensue. This, of course, is another full-employment argument, for so long as employment is capable of rising, any dissaving on the part of one group will tend to produce such a rise, and will thereby occasion an offsetting increase in the saving of other groups.[19] But even on full-employment assumptions, arguments alleging a substantial decline in total saving as a result of lower interest rates are very vulnerable. Their weakness is that they consider only the plight of the interest receiver and disregard the boon of lower rates to the interest payer. In an earlier part of this section we observed the mechanism of the interest flow, how every dollar of interest received by someone in direct or imputed form, is paid by someone else in the form of higher prices, lower wages, or lower profits A fall in rates reduces the income of interest receivers, and hence their ability and willingness to save, but it equally increases the incomes of interest payers, and their ability and willingness to save is thereby increased. If interest payers and interest receivers were equally represented along the income scale, so that the nature of the income distribution is not altered by the interest flow, the reduction in saving on one side should be balanced exactly by the increase on the other. There would then be no change in the total propensity to save at all.

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[18] *The Theory of Social Economy* (New York, 1924), pp. 224-238

[19] In conditions of full employment, dissaving would tend to produce an increase in prices which in turn would probably raise interest rates, and in this and other ways, would occasion additional savings until equilibrium is reëstablished in this painful manner.

This view might be challenged by saying that there seems to be a tendency to save more out of interest income than out of earned income. This at least seems to be the impression produced by the way in which many people allow their interest on bank accounts and savings bonds, etc., to accumulate. But that impression probably has little validity. It overlooks that decisions to save out of earned income are usually made in the light of prospects for automatic accumulation out of interest. The *total* income, in other words, is chiefly determined for saving, not how much of it is received in the form of interest.

Granting, then, that an interest flow which did not alter the distribution of income would not alter the propensity to save, or only very minutely, what is the real situation? We found above that the interest flow does bring about a redistibution of income, in the direction of greater inequality, because interest receipts are bunched in the higher brackets. Since saving habits are stronger there, the over-all propensity to save is likewise increased. The redistibution effect of the income flow is greater, naturally, the higher the interest rate and thus the size of the flow We therefore find confirmed the popular view that a rise in the interest rate increases the propensity to save. However, it is important to note that, in contrast to the popular view, this is not because everybody's propensity to save is increased. The reason is, rather, that higher interest rates shift income from those who save little to those who save much.

From this second conclusion follows: For the "little man" who inhabits the lower brackets, saving is made harder, not easier, by higher interest rates. Higher rates do give him a better return on his money, but what they take away from him is more. Since the better interest return fails to make up for his reduced income, the net result probably is lower saving for the "little man"

By industrious saving, the little man can, of course, overcome the odds which a high interest rate builds up against him. He may eventually have enough to give him an interest income larger than his interest payments. Toward the end of his working life, this may even be the normal condition, since a person's volume of assets obviously depends upon his age as well as his saving habits. But a high interest rate makes the road to the turning point where interest receipts begin to exceed interest payments more of an uphill struggle, and delays the approach of the turning point.

A third conclusion follows from our statement regarding the power of higher rates to stimulate saving. If the over-all propensity to save rises, the leakage from the income stream is increased and national income will fall unless the additional saving generates an equal amount of additional investment. I have already expressed my doubts that such "self-investment" of savings can be anything but small, and hence a fall in income seems highly probable.

Any quantitative estimate naturally is out of the question. Probably the amount goes into several billions. If, for instance, the marginal propensity to save of the interest payers were 30 per cent on average and that of the interest receivers were 60 per cent on average, then a 12-billion-dollar interest flow would bring an increase in saving of 3.6 billion. Assuming a multiplier of two, this would signify a drop in income of 7.2 billion, unless some of the extra saving were "self-investing." A rise in interest rates which would lift the interest flow to 20 billion would then produce an income drop of 12 billion.

All this, however, is speculation. All we can say is that changes in interest rates, because of their redistributive effect may, in the long run, lead to considerable income changes. Be it noted, furthermore, that this assumes that the change in interest rates is due to government action. If it is the result of changing investment activity, the effect of redistribution may be partly or fully offset, or quite likely even overbalanced, by the effects of such activity.

VI. *Changes in Asset Values*

The interest rate also works upon national income via its effects upon the value of assets. Changes in market rates of interest produce changes in the capitalized value of income-yielding assets. The longer the term of an obligation, the greater its response to changing rates. For equities and preferred stocks, being perpetual claims, a change in market rates can be fully reflected in the current yield and hence in the price (barring the effect of the call price upon callable preferreds).

Such capital gains and losses, realized or unrealized, do not enter into national income. Nevertheless, they may have important repercussions upon income, because they are apt to affect the expenditures of the capital gainers or losers. Lord Keynes always seems to have been fascinated by the extra fillip which bull and bear markets appeared to give to the American cycle. The big movements, however, *usually are set in motion by shifting profit expectations*, and are only secondarily influenced by interest capitalization factors. The question is how far movements primarily due to interest rate changes tend to create enthusiasm or caution in spending.

The crucial difference in the latter case is that interest and dividend income remains unchanged by the rise or fall in capital values. Eventually, in fact, income will move in the same direction. In the case of a fall in interest rate, bond and preferred stockholders will find that happening quite soon, as their securities are being refunded. They will therefore have little incentive for capital gains spending, quite apart from the fact that the typical holders of high-grade securities, where interest rate changes are quickest to be reflected in price, ordinarily are not of the sanguine spending type. The large-scale capital gains on new government securities made by free riders and speculators in recent years, which may have produced a certain amount of spending, were a wartime phenomenon not likely to be repeated soon in significant volume. A rise in interest rates, reducing the capital value of high-grade securities, likewise is apt to have little effect on expenditures, for the same reasons.

The effect of interest movements on common stocks and similar assets, moreover, is likely to be obscured by changes in profit expectations. In former years, these two factors tended to work in opposite directions—rising interest rates during booms tending to lower values and rising profits tending to raise them, and *vice versa* in depressions. In these cases, the influence of interest rates, of course, was completely swamped. During the rise of the thirties, and again during the latest upswing, profit expectations and interest rates have combined to push up common stock prices, and thus interest rates must share some of the responsibility for the capital gains spending which may have come out of these two bull markets. How large this share may be is very uncertain.[20] In contemporary British discussions of interest policy, the danger of large-scale capital gains spending is given considerable emphasis. Lord Beveridge, for instance, mentions it as one of the two major obstacles to a sudden reduction of rates close to zero.[21] Possibly this emphasis results from contemplation of the extreme case of a virtual annihilation of the pure long-term rate. Within the more modest scope of contemporary American interest policy discussion, I doubt that more than moderate importance attaches to this angle.

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[20] It is worth noting that the biggest gains usually were scored in securities whose return is very uncertain, which in turn deprives the capitalization factor of its importance.

[21] *Full Employment in a Free Society* (London, 1944), pp. 340-41. Also see E. F. Schumacher, "Public Finance—Its Relation to Full Employment," in *The Economics of Full Employment* (Oxford, 1944), p. 113.

In addition to its influence over expenditures, the capitalization factor is of considerable importance to banks and other institutions with a stake in longer-term securities. Particular significance attaches to rising rates, of course. The danger to the practical solvency of the banking system probably is slight, as has been repeatedly pointed out.[22] The conservative portfolio structure of most banks makes it unlikely that any forseeable loss of deposits to individual banks or to the system as a whole could force large scales of securities at a loss The morale effects of a sharp drop in the market value of bank portfolios, however, might be considerable, for bankers and public alike might feel rather uncomfortable while "sweating out" the return of securities to par. The former might react by cutting dividends and becoming hyperconservative on loans, while the public might begin shifting deposits in search of safety. Thus a sharp rise in interest rates might have considerable repercussions In this connection, one may also recall Mr. Seltzer's observations on the possible impairment of public confidence in government credit, if a rise in the market rate to 5 per cent should occur with a consequent drop in the longest maturities to 65 or less.[23]

Thus it has happened that the control of capital values in the bond market has become one of the most important aspects of present-day monetary policy. A central banker, now, shows the same concern over developments affecting his carefully constructed rate pattern as over movements in his member banks' reserve position. To some extent, of course, this is the result of such commitments as exist between the central bank and its government for the maintenance of the price of public securities. But beyond that, there is the realization that major movements in security prices may prove definitely unsettling. The likelihood of such movements is particularly great in countries where, as in the United States, the maintenance of an existing rate pattern in part depends precisely upon the public's skepticism as to its maintenance.

It is in this light that some of the small maneuvers engaged in by central banks, which would otherwise seems almost microscopic, viewed against the magnitude of present-day credit control problems, must be understood. If long-term bonds are to be prevented from rising, as they have tended to do in the United States, it is necessary for the central bank to maintain the public's liquidity preference. This it can do, in some measure, by occasional actions which create doubt in the public mind as to the stability of long-term securities. The recent removal by the Federal Reserve Banks of the preferential rediscount rate for short-term government securities seems to have been an instance of this type of policy.

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[22] *Cf* Paul A. Samuelson, "The Effect of Interest Rate Increases upon the Banking System," *Amer Econ. Rev.*, Vol. XXXV, No. 1 (Mar., 1945), pp. 16-27.

[23] "Is a Rise in Interest Rates Desirable or Necessary?", *Amer. Econ Rev.*, Vol. XXXV, No. 5 (Dec., 1945), p. 844.

VII. *Special Sectors*

The growth in the debt and the drop in interest rates which accompanied it have combined to produce serious income problems for several special sectors of our economy. Among these are (a) rentiers, (b) endowed institutions, (c) the United States government, and (d) in a reverse sense, the commercial banks. We shall attend to them in that order.

A. *Rentiers.* A small saver who retired a few years ago with accumulations of 10-20,000 dollars has experienced all the misfortunes which could befall him in a well-organized economy. During the greater part of his working life interest rates were high, which made saving harder for him, since his income presumably was low. He was hit by the depression and may have sustained some losses, and may also have had to dig into capital if he lost his job. Then, when he reached the point where the growth of his capital began to make his interest receipts greater than his payments, so that he might have benefited from high interest rates, these declined. Eventually taxes went up and rising prices contributed to his whipsawing.

This list of woes shows up the serious plight today of the small rentier. It also shows, however, that interest rates are only one of his problems, and probably not the main one. Moreover, many small rentiers are contractually protected against falling rates, through the provisions of their pension funds and their insurance policies.[24] The war, moreover, has provided compensation in some cases, through the rising value of homes and opportunity to return to work, for instance.

The large rentier, although in many respects harder hit, is better off in that to him capital consumption is an additional resource, while the small rentier has to rely on it in any case. Where trust restrictions and other obstacles prevent this, the situation of large rentiers can become difficult.

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[24] It is reported, for instance, that of the lump sum payments made by life insurance companies, about 40 per cent in recent years were left with the companies at interest at a rate determined by the original policy.

All in all, there can be no question that the position of rentiers is becoming increasingly difficult and that the fall in interest rates is an important contributory factor. To the rentier interest is much more important as income than as cost, in contrast to younger savers in the lower-income brackets And, unlike these, he is defenseless, because he usually cannot earn any more. With others of his kind, he forms a dispersed and therefore weak group which deserves more national consideration than it is getting.

At the present time, unfortunately, we have next to no statistical knowledge of the magnitude of the problem. But even if the number of people partially or wholly dependent upon interest receipts should turn out to be very important, there are serious doubts whether the interest policy of the country should be guided primarily by this fact. Moreover, a rise in rates would hurt rather than help many, by depressing bond values. It would provide better yields only as such bonds mature, a rather poor prospect for people in their sixties and seventies. At most, one may argue that a further reduction in rates should be postponed, unless there are strong reasons favoring such action. The best solution perhaps would be to provide special securities,[25] with a limitation upon total holdings, or to create similar facilities via savings banks. Series E savings bonds are a step in this direction, although ten years is a long time for some people to wait for their 2.9 per cent. Perhaps some more substantial subsidy would be in order. Rentiers cannot demand that overall interest policies should be formulated primarily to suit their needs, but they are entitled to some protection against the treatment they are undergoing now.

B. *Endowed Institutions.* Academic readers need no explanation of what low interest rates are doing to endowed educational, scientific and charitable institutions. But here, even more than in the case of rentiers, it seems clear that the quantitative importance of the problem does not warrant a major modification of overall interest policy, unless that policy happens to find itself on the margin of indifference in every other respect. It is true that on the qualitative side endowed institutions have a strong claim to consideration, for expenditures for education and research add more to our standard of living than almost any other. The amounts involved, however, are small.

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[25] *Cf.* John H. Williams, "The Implications of Fiscal Policy for Monetary Policy and the Banking System," in *Postwar Monetary Plans and Other Essays* (New York, 1944), p. 100.

Total income-producing funds of American foundations were estimated at $1,074 millions in 1940, on which an income of $30 million (not all of it interest) may have been received.[26] The total income-producing assets of all endowed institutions were estimated at $7-9 billions in 1930.[27] If subsequent accretions were roughly balanced by losses, this sum today might produce an income of around $300 millions. Even if all of this were interest (in our sense), it would only be 2.5 per cent or less of the total estimated interest flow.

Again the most adequate solution would be the issuance of special federal securities.[28] This would recognize the special importance of endowed institutions without encumbering overall interest policy with undue concern for relative minutiae.

C. *The Government.* There is little doubt that, in the mind of the public, the main reason for keeping interest rates low and perhaps pushing them down further is the cost of the public debt. I shall endeavor to show that, as a major determinant of interest policy, the cost of the public debt is greatly overrated.

In the first place, the net amount of federal interest payments is considerably smaller than it would seem. The total annual payment on a $260 billion debt, at a computed rate of close to 2 per cent, is slightly over $5 billion. But of this unquestionably impressive sum, as much as $1.3 billion is recouped by the Treasury, through taxes on the marginal income represented by public debt interest receipts and by payments into government trust funds.[29] This reduces net payments to slightly less than $4 billion.

In the second place, part of the government's interest payments have a special character which puts them into the category of desirable subsidies. Part of the payments to banks, *i.e.*, those which the banks need to cover part of their running expenses, are in this class. An attempt to reduce public interest payments to the banks below the level required to cover these expenses, would not relieve the public of paying for the operation of our monetary system. It would merely change the form of these payments which would then have to be made partly through service charges. Another desirable subsidy element is contained in E bond interest, in so far as this goes to alleviate somewhat the plight of rentiers.

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[26] Geneva Seybold, *American Foundations and Their Yields* (New York, 1942), p. 151.

[27] This does not include the land and buildings employed by such institutions for their own use. *Trusteeship of American Endowments* (New York: Wood, Struthers and Co., 1932), p. 39.

[28] This suggestion was made by David McCord Wright in *The Creation of Purchasing Power* (Cambridge, 1942), p. 219.

[29] *Cf. Public Finance and Full Employment*, p. 86.

In the third place, the federal interest charge is in some respects less of a burden upon the economy than other types of government outlays. Interest payments are not "exhaustive" expenditures, they do not, like military expenditures, absorb productive resources which otherwise would be available to the economy. Thus, their damaging effects are limited mainly to the harmful impact of the necessary taxes upon investment, to the greater inequality of income distribution which they produce, and to their tending to crowd other desirable expenditures out of the budget.

Withal, it cannot be denied that the federal interest charge is an important matter, and that it represents a powerful argument against higher interest rates. The danger is that this argument might become all-powerful because it is so much in the public mind and because, like a tumor, it constantly presses against the consciousness of public officials. It should be viewed in its proper proportions and in relation to all other factors bearing upon interest policy.

D. *The Commercial Banks.* The income problem of the banks differs very notably from that of the sectors surveyed before: they earn, not too little, but, in the opinion of many observers, too much. Actually, the problem of high bank earnings is a potential rather than a real one. Before Hiroshima, when another year or so of war was expected, with a depression thrown in at the end, it was anticipated that bank holdings of federal securities and hence their earnings might continue to expand greatly. The favorable course of developments has kept bank earnings far below these expecitions.

In 1945, net current earnings before income taxes of Federal Reserve member banks amounted to 11.5 per cent on their capital accounts, which was brought down to 7.8 per cent by income taxes. A reduction of about $135 million[30] in interest receipts would suffice to reduce this ratio to the average return of 6.5 per cent estimated for all corporations in 1945.[31] This would leave untouched the additional 3.2 per cent return realized through profits and recoveries in excess of losses, which do not constitute regular income.

Generally speaking, therefore, concern over high bank earnings applies not so much to what is now as to what might happen if short-term interest rates were allowed to rise, or if the banks shifted heavily into longer maturities. Even if bank earnings should rise substantially, one may perhaps ask why large earnings of one group should become a cause for extreme concern while the hardships of other groups fail to attract much attention. But since high bank earnings come so largely out of the public purse, there is the distinct danger of political attacks upon banks, and in this sense there is real cause for concern.

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[30] For all commercial banks the amount would be slightly higher.

[31] National City Bank letter, April 1946, p. 47.

It would be very unfortunate, however, if bank earnings should become a major determinant of our interest policy. Of this there now seems some danger. Instead of allowing interest policy to be straight-jacketed by this an organic criterion, an *ad hoc* solution should be found. Many have been proposed, the latest being the three alternative suggestions made by the Board of Governors of the Federal Reserve System in its recent annual report.[32] They would give the Board more freedom in its general interest policy while protecting the Treasury against higher interest costs and the banks against the consequences of excessive income from the government.

There is another income problem affecting the banks which derives, not from high earnings on low-interest public debt, but from the decline in interest rates and risk premia on other securities and loans. It was pointed out earlier, in connection with the discussion of the risk element, that very low interest rates tended to drive down the risk rate. Lenders are forced to reach out for less secure investments in order to obtain what looks like a good return. There is some evidence that many smaller banks, accustomed to high rates of return and not favored by large deposit increases, have been forced to reach out in this manner and have thereby weakened their position.[33] The importance of, and probable consequences of, this trend are as yet impossible to assess. It may be, however, that in the next depression the difficulties experienced by weak lenders may present us with a not inconsiderable bill for this feature of our easy money policy.

VIII. *Toward a Zero Rate?*

In some quarters, particularly in Britain, there has been serious discussion of the possibility of a zero long-term rate.[34] It is felt that if the long-term rate is primarily a risk premium, paid to overcome liquidity preference, then by eliminating this risk through complete stabilization of the bond market, the authorities could bring the rate to close to zero. A few additional controls would suffice to snuff it out altogether. It has been argued that this would be the sensible thing to do in the face of a constant tendency to oversave. If people continued to court stagnation by trying to save more than the economy could invest, they should at least not be paid for doing so.

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[32] *Annual Report of the Board of Governors of the Federal Reserve System for 1945.*

[33] *Cf.* J. H. Riddle, *Debt Management and Interest Rates* (New York, 1946).

[34] *Cf.* n. 21, p. 779.

These thoughts are not without logic. But the proposal to push interest to zero brings us face to face with the fundamental question of the continuance of our capitalistic system. Interest is both an outstanding symbol of this system and a basic element of its most characteristic institutions. If we do away with interest, will the rest of the system stand? With banking and the capital market greatly weakened, the building of personal fortunes further impeded, the whole concept of a return to ownership undermined, what kind of economy would we be going into?

It seems futile to think of curing the illnesses of the capitalistic system by amputating one of its vital organs. It would also be dangerous and, in a sense, a little presumptuous. The danger would be in the existence of a fixed policy commitment—a new element of rigidity. If conditions should arise tending to revive interest, the policy would have to be enforced by additional controls or abandoned in disorder.

The presumption would be in the attempt to eliminate a phenomenon with a long historical background which is deeply ingrained in our thinking, not to say in our nature. It cannot be claimed that there is a historical down-trend in interest rates destined to glorify our age with its culmination. Three hundred years ago, the rate on high-grade risks charged by Dutch investors was about 3 per cent. Before the French revolution, the rate in France was 2½-3¾ per cent.[85] Through fairly long periods of the 19th century, long-term rates were as low as 2½-3 per cent. Taking the historical approach, we ought to be impressed, rather, by the extraordinary ability of interest rates to recover to high levels, as during the 1920's. In this perspective, the present decline in the rate tells us very little as to where it will eventually be going.[86]

[85] Cassel, *Theory of Social Economy*, p 202.

[86] In the long run, I have no doubt that economic forces rather than policy are determining for the level of interest rates. At any given moment, policy probably can fix rates at any level it wants to, within reason. But if this level is very far out of touch with basic trends, the results of such policy are apt to burst out at the seams of the economy in ways familiar to the reader These consequences are apt to force a reconsideration of policy, to bring it more into harmony with conditions produced by the trend of in-

If we should be facing continued stagnation of private enterprise, a further decline in rates may be desirable and proper. In the long run, however, stagnation probably would bring the capitalistic era to an end in any case. But over a long period of time, the outlook for stagnation depends not only on investment outlets, but also on the propensity to save. If the latter should adjust itself to low capital requirements, we might have a very limited investment activity with nevertheless active competition for available funds.

Conclusions

Our discussion has confirmed, I believe, the view put forward at the outset, that the interest rate today is more of a factor influencing the volume and distribution of income than an instrument of cyclical control. It has also yielded several conclusions about current interest policy, which I proceed to summarize.

1. We have found no single overriding consideration calling for any particular kind of overall interest policy—higher rates, lower rates, or stable rates. Instead, we have come across a number of separate desiderata, many of them in conflict with each other and none weighty enough by itself to swing the issue. This is quite in line with the rather diffuse effect now characteristic of the interest rate.

2. Nevertheless, among these diffuse factors there are several which argue strongly against an extreme policy in either direction —a sharp rise or a sharp reduction in rates. The danger of a downward spiral, the need to maintain confidence in the public credit, and the position of the banks practically prohibit a severe tightening of credit. The danger of a wild boom in capital assets, the problems facing rentiers and endowed institutions, and the uncertainties of the future speak strongly—perhaps not quite so strongly—against a reduction in rates close to zero. But within reasonable limits, none of these aspects can be said to rule out any particular policy.

3. The needs of certain sectors and the requirements arising from particular conditions, which may be in conflict with the policy actually pursued, are often capable of being met, at least in part, by *ad hoc* solutions. If interest rates are low, the problems of small rentiers and endowed institutions could easily be met by special limited issues of higher coupon securities. The need for cyclical

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vestment and saving. It is in this sense that the above remark must be understood about where the interest rate will eventually be going. Although at any given time the rate is determined by policy, policy itself is influenced to a large extent by the factors which in its absence would determine the rate.

regulation of credit could be dealt with by operating directly on availability, instead of via interest rates. Embarrassingly high bank earnings could likewise be handled outside the main stream of interest policy.

4. The demands and needs which cannot be taken care of in this form must be compromised by overall interest policy. The policy best suited to reconcile conflicting claims would be one of stable rates for the present and also for the foreseeable future, unless long-run depression should develop. In that case, a moderate further reduction in rates would be desirable. This view rests upon the following considerations:

> (a) Under present conditions of high income and inflationary pressure, the aspects calling for lower rates—more equal income distribution, reduction in overall propensity to save, and stimulation of investment—lose much of their importance. They would gain weight if long-run deflation trends should develop.
>
> (b) The cost of the public debt, which likewise speaks in favor of lower rates, is less important than its dollar amount would indicate, and should not be allowed to weigh heavily in our considerations.
>
> (c) Factors suggesting higher rates—inflation control and the needs of rentiers and endowed institutions—likewise do not carry enough weight to make them decisive, particularly when they can be dealt with by *ad hoc* measures. They do, however, add to the case against a further lowering of rates now.
>
> (d) Under present conditions, stability in the value of capital assets is preferable to a sharp move in either direction. This stability would be aided by stable rates.

The general picture of interest policy which thus takes form is one of increasing compartmentalization of the market and an absence of fixed commitments. This will enable us to deal with special aspects on their own merits, and to meet broader situations as they develop.

The proposed approach is very much at variance with diverse alternatives of public debt policy currently proposed—refunding of the debt at higher rates, uniform conversion of the debt into consols, or sharp reduction of rates. It is much closer to the policies actually being pursued. It suggests, however, that the practice of market differentiation already adopted in an embryonic form should be carried to its logical conclusion, and that more attention should be given to the broader impact of interest rates and less to special factors like bank earnings and budgetary costs.

CHAPTER XIV

Interest Rates in Canada*

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I. The Course of Interest Rates, 1929-1937

The eight years' interval from 1929 to 1937 was one of the most eventful periods in modern economic history. In common with other indices of economic conditions, rates of interest returns were affected by the world-wide collapse in the years immediately after 1929, and by the recovery movement which has persisted from about 1933. Among Canadian interest rates the outstanding development was the extensive decline after 1932 in the return obtainable from most of the important types of loan investment. Two significant features of this decline were, first, the decreases in certain rates which had been relatively stable for several decades and, second, the unprecedented divergence between rates of return on short and long term bonds of high grade. These developments are broadly illustrated in table I and in a chart accompanying this article.

The remarkable changes in recent years in rates of interest returns are primarily attributable to the influence of unparalleled "easy money conditions" induced in the first instance by the economic collapse and later intensified by governmental policies of an emergency nature. These were pursued in Canada and most other countries, and were designed to modify some phases of the disequilibria produced by the depression and to promote recovery. Data presented in this paper will trace the behaviour of interest rates in Canada since 1929 as indicated by returns obtainable from time to time on several types of loan investment which are popular with institutional and private investors. Limitation of space prevents an exhaustive analysis of this subject; and the scope of the two papers to follow renders unnecessary anything but incidental reference to the causes of changes in rates.

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TABLE I

SUMMARY OF MOVEMENTS OF CERTAIN INTEREST RATES IN CANADA, 1929-37*

	Long term investments				Short term investments				Private mortgage loans†		Ratio of short to long term rates‡
	Government bonds		Corporation bonds		Government bonds		Bank interest on savings deposits				
	Average yield	Index	Average yield	Index	Average yield	Index	Rate	Index	Rate	Index	
	Per cent		Per cent		Per cent		Per cent		Per cent		Per cent
1929	4.93	100.0	5.31	100.0	5.34	100.0	3.00	100.0	7.00	100.0	108.3
1930	4.73	95.9	5.28	99.4	4.87	91.2	3.00	100.0	6.91	98.7	102.9
1931	4.63	93.9	5.64	106.2	4.43	82.9	3.00	100.0	6.71	95.8	95.7
1932	5.12	103.8	6.60	124.3	5.08	95.1	3.00	100.0	6.96	99.4	99.2
1933	4.60	93.3	6.49	122.2	4.15	77.7	2.67	89.0	6.78	96.8	90.2
1934	3.97	80.5	5.27	99.2	2.91	54.5	2.42	80.7	6.59	94.1	73.3
1935	3.58	72.6	4.76	89.6	2.29	42.9	2.00	66.7	6.01	85.8	64.0
1936	3.26	66.1	4.12	77.6	1.61	30.1	1.71	57.0	5.74	82.0	49.4
1937§	3.38	68.5	3.95	74.4	1.93	36.1	1.50	50.0	......	......	57.1

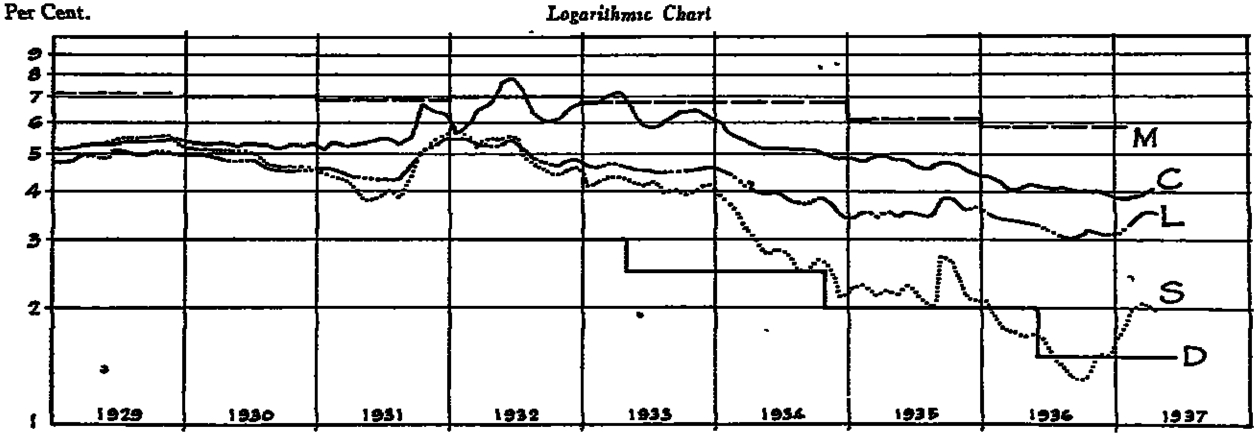
*Descriptions of the precise significance and the source of each set of figures are given in connection with the other, more detailed, tables in this article.

†Weighted average of rates charged in Ontario and Montreal on new business and renewals by a representative company.

‡This ratio refers to rates on government bonds only

§First four months only.

The Course of Certain Canadian Interest Rates, January, 1929, to April, 1937



M—Mortgage lending (new business and renewals of a single company operating throughout Canada).
C—Corporation bonds, long term yields.
L—Long term government bond yields.
S—*Short term government* bond yields.
D—Deposit rate paid by the Canadian chartered banks.

Note: The exact figures employed in the construction of this chart will be found in various tables of the accompanying article.

Long Term Government Bonds

The course of the yields upon a selected group of long term bonds of the Dominion of Canada is indicated, for the period from January, 1929, to April, 1937, in table II.

High grade government bonds available to investors in Canada include not only the obligations of the federal government, but also the securities of certain of the provincial and municipal governments. Important changes in the level of interest returns from Dominion of Canada bonds produce sympathetic movements in the rates of yields obtainable from issues of these governments. The course of interest returns on Dominion government long term bonds since 1929 is therefore representative of the general behaviour of yields on all long term high grade government bonds, although at all times the level of yields on most provincial and municipal securities was higher than the return on Dominion bonds of comparable term and coupon rate. It must be noted that, during the period, the bonds of some provinces and municipalities ceased to be considered "high grade."

In order to evaluate the long range importance of movements in the return on high grade long term government bonds in recent

TABLE II

LONG TERM GOVERNMENT BONDS

Monthly Averages of Yields on Selected Issues* of Dominion of Canada Bonds, January, 1929, to April, 1937

Source: Material supplied directly by the Dominion Bureau of Statistics and subsequently published in *Prices and Price Indexes*, April, 1937, p. 18c.

	1929	1930	1931	1932	1933	1934	1935	1936	1937
January	*4.72*	*4.96*	4.56	*5.47*	4.68	*4.52*	*3.44*	*3.52*	*3.14*
February	4.77	4.92	4.54	5.45	4.66	4.42	3.55	3.44	3.32
March	4.97	4.91	4.46	5.90	*4.74*	4.18	3.47	3.39	3.53
April	4.90	4.82	4.37	5.93	4.69	4.07	3.51	3.37	3.55
May	4.86	4.78	4.34	5.31	4.61	3.97	3.47	3.34	
June	*5.05*	4.77	4.29	5.42	4.53	3.99	3.56	3.25	
July	5.05	4.76	*4.29*	5.22	4.54	3.89	3.50	3.16	
August	4.95	4.66	4.29	4.88	*4.48*	3.78	3.48	3.07	
September	4.99	4.56	4.64	4.79	4.49	3.75	*3.87*	*3.06*	
October	5.03	4.54	5.11	*4.67*	4.54	3.85	3.83	3.21	
November	5.02	*4.54*	5.23	4.78	4.58	3.75	3.62	3.16	
December	4.92	4.56	*5.42*	4.83	4.62	*3.46*	3.67	3.11	
Year	4.93	4.73	4.63	5.12	4.60	3.97	3.58	3.26	

NOTE: The highest and lowest averages in each year are italicized.

*No issue included in these averages had at any time less than eight years to run to maturity or call date. Average yields were based on four issues in years 1929-31 inclusive, and on six issues in and after 1932.

years, it is interesting to examine the major trends in yields which have occurred over the last thirty-six years. Before the Great War the bulk of securities issued by the Dominion was held outside Canada with the result that the domestic market for federal government bonds was limited. However, since about the beginning of the century the province of Ontario, the wealthiest and most populous province in the Dominion, has done a large proportion of its financing in the domestic market and a fairly complete record is available showing the yields on long term Ontario bonds current throughout each of the years from 1900. Based on changes in the average annual yield obtainable on selected issues of Ontario bonds, there have been four broad movements in the course of interest returns on long term government bonds since 1900. The duration, range, and nature of these movements are outlined in table III.

TABLE III

LONG TERM ONTARIO GOVERNMENT BONDS

Annual Averages of Yields on Selected Issues of Province of Ontario Bonds, 1905-36

Source. Prices and Price Indexes 1913-35, p. 152, table L, and data contained in several issues of *Monthly Review of Business Statistics* published by the Dominion Bureau of Statistics

Duration of movement	Average annual yield at		Nature of movement
	Start of movement	End of movement	
	Per cent	Per cent	
1905-1918, about 13 years	3.63	6.01	A long upward swing interrupted by an intermediate movement in years 1909, 1910, and 1911
1921-1928, about 7 years	6.00	4.43	A downward swing interrupted only by a period of stability in 1926
1928-1932, about 4 years	4.43	5.20	A relatively short upward swing interrupted by an intermediate decline in 1930 and 1931
1932-1936, about 4 years	5.20	3.59	A sharp uninterrupted decline

Corporation Bonds

The behaviour of yields upon a representative group of Canadian corporation bonds is indicated in table IV.

At times the movements of government bonds may influence considerably those of corporations. Apart from the years 1932 and 1933, when corporate financial distress was particularly acute, it is apparent that the break in yields on corporation bonds in the autumn of 1931, the gradual decline in such yields after November, 1933, and the upward movement since January, 1937, were directly influenced by contemporary movements in rates on high grade long term government bonds. The relationship of average monthly yields of the corporation bonds to the average monthly yields of long term Dominion of Canada bonds is presented in table V. The limited experience illustrated by these data is not capable of supporting any important conclusions other than the general facts that in the period reviewed the spread between yields on government and corporation bonds was highly variable; the degree of separation becoming greater in each year until 1933 since which time most of the increase in spread has disappeared.

Short Term Government Bonds

The course of the yields of a selected group of short term bonds of the Dominion of Canada is indicated, for the period from January,

TABLE IV

LONG TERM CORPORATION BONDS

Monthly Averages of Yields on Selected* Bonds of Canadian Corporations, January, 1929, to April, 1937

Source: Original data compiled from the quotation sheets of several leading investment houses and the sales records of the Montreal office of the Dominion Securities Corporation, Limited.

	1929	1930	1931	1932	1933	1934	1935	1936	1937
January	5.15	*5 34*	*5 14*	*5.65*	6 80	*6.04*	4.91	*4 39*	3 88
February	*5 13*	5 32	5.37	5.93	6.84	5 62	4.80	4 29	3 91
March	5 23	5.34	5 24	6 51	7 12	5 42	4 92	4 08	3 96
April	5 30	5 31	5 29	6.70	*7 24*	5 34	*5.00*	4 09	4 04
May	5 28	5 29	5 35	7 38	6 65	5 19	4.86	4.19	
June	5 32	5 27	5.44	*7 96*	5 96	5 20	4 83	4.13	
July	5 35	5 27	5.43	7 50	*5 88*	5 19	4 68	4.10	
August	5 35	5 27	5 34	6 37	6 08	5.15	4 62	4.11	
September	5.38	*5.18*	5.46	6 07	6 29	5.16	4 75	4 03	
October	5 39	5 25	*6 73*	6 13	6 42	5.10	4.74	4 03	
November	*5.43*	5 22	6 51	6 40	6 41	4.96	4 62	4 02	
December	5.41	5 30	6 41	6 66	6.20	*4 85*	*4 46*	*3 96*	
Year	5 31	5 28	5 64	6.60	6 49	5 27	4 76	4 12	

NOTE: The highest and lowest averages in each year are italicized.

The first figure, that given for January, 1929, is an average of the yields on nine issues; the last figure, April, 1937, is an average of eleven. Bonds of the following corporations have contributed to the averages; the first nine issues being those in the first average, and the eleven marked with asterisks being those in the last. Montreal Coke and Mfg., Canada Cement, Dominion Coal, Howard Smith, C.P.R.*, Montreal L.H & P.*, Canada Northern Power, Bell Telephone*, Ottawa L.H. & P, Nova Scotia L. & P., British American Oil, Dominion Realty*, Shawinigan W. & P.*, General Steel Wares, Calgary Power*, Union Gas*, Power Corporation*, Simpsons Limited*, B.C. Power*.

1929, to April, 1937, in table VI. Prior to 1932 the course and rate of interest returns on high grade short term bonds were similar in most periods to the course and yield then prevailing on high grade

TABLE V

LONG TERM GOVERNMENT AND CORPORATION BONDS

Comparison of Movements of Average Yearly Yields, 1929-37

Year	Average yearly yield		Percentage of yield on corporation bonds to yield on government bonds
	Corporation bonds	Government bonds	
	Per cent	Per cent	Per cent
1929	5.31	4.93	107.7
1930	5.28	4.73	111.6
1931	5.64	4.63	121.8
1932	6.60	5.12	128.9
1933	*6.49*	*4.60*	*141.1*
1934	5.27	3.97	132.7
1935	4.76	3.58	133.0
1936	4.12	3.26	126.4
1937*	3.95	3.38	116.9

*First four months only.

TABLE VI

SHORT TERM GOVERNMENT BONDS

Monthly Averages of Yields on Selected Issues* of Dominion of Canada Bonds, January, 1929, to April, 1937

Source. Original data compiled from the quotation sheets of several leading investment houses and the sales records of the Montreal office of the Dominion Securities Corporation, Limited.

	1929	1930	1931	1932	1933	1934	1935	1936	1937
January	*5.13*	*5.17*	4.55	*5.70*	4.15	*3.92*	2.29	*2.10*	1.71
February	5.14	5.09	4.37	5.56	4.26	3.70	2.31	1.83	1.98
March	5.21	5.05	4.28	5.25	*4.36*	3.28	2.19	1.77	2.06
April	5.29	5.07	4.04	5.46	4.32	3.08	2.25	1.71	1.98
May	5.32	5.04	*3.79*	5.42	4.26	2.81	2.19	1.72	
June	5.41	5.06	3.86	5.49	4.14	2.85	2.39	1.68	
July	5.45	4.98	4.00	5.23	4.22	2.81	2.12	1.50	
August	5.44	4.67	3.85	4.73	3.95	2.54	*2.04*	1.40	
September	5.42	4.59	4.37	4.58	4.01	2.51	*2.76*	*1.32*	
October	5.48	4.60	5.15	*4.43*	*3.93*	2.71	2.68	1.34	
November	*5.48*	4.57	5.31	4.49	4.06	2.56	2.23	1.51	
December	5.34	*4.56*	*5.55*	4.60	4.13	*2.14*	2.11	1.50	
Year	5.34	4.87	4.43	5.08	4.15	2.91	2.29	1.61	

NOTE: The highest and lowest averages in each year are italicized.

*In each month the figure is the average of the yields on two or three issues having not more than six years and not less than ten months to run to maturity.

long term issues. This condition was due largely to the limited amount of capital seeking short term investment in bonds and in part to the absence of any continuous supply of suitable investment media. However, about August, 1932, when the downward trend in economic conditions was well advanced and the outlook obscure, the pressure of an unprecedented supply of credit seeking outlet in the purchase of liquid short term securities resulted in the rate of return obtainable from such bonds falling to a level below yields on long term issues of comparable credit status. This separation in yields has persisted since August, 1932, reaching its maximum in October, 1936. In that month the average yield obtainable on a selected group of Dominion of Canada bonds due within five years amounted to only 41.7 per cent of the average yield on a representative list of federal government long term issues. The high, low, and average monthly relationship of yields on short to yields on long term bonds is indicated in table VII.

TABLE VII

LONG TERM AND SHORT TERM GOVERNMENT BONDS

Percentages of Yields on Short Term to Yields on Long Term Bonds, 1932-37

	1932	1933	1934	1935	1936	1937*
	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent
Highest percentage	104.2	92.9	86.7	71.3	59.6	59.6
Lowest percentage	93.9	86.6	61.8	57.5	41.7	54.4
Monthly average	99.0	90.2	72.8	63.9	49.4	57.0

*First four months only.

The separation in yields between long and short term bonds inspired the Dominion government to assist the growth of a short term money market in Canada by initiating the practice of selling short term treasury bills by public tender at frequent intervals since March, 1934. An account of the sales of treasury bills by public tender up to May 1, 1937, is set out in table VIII. The chartered banks and the Bank of Canada are undoubtedly the principal, although not the sole, dealers in treasury bills. Prior to 1934 the government sold treasury bills direct to the chartered banks at prices determined by private agreement; and as a rule these bills were not negotiated in the open market subsequent to date of purchase.

Savings Deposits

Savings deposits have always constituted one of the most liquid and popular forms of short term investment in Canada. Depositaries presently engaged in the acceptance of savings deposits consist principally of the savings departments of the chartered banks and of trust

TABLE VIII

SHORT TERM TREASURY BILLS

Records of Sales by Public Tender by the Dominion of Canada

Source: Information supplied by the Department of Finance and the Bank of Canada.

Issue date	Maturity date	Days term	Amount	Average cost	Cumulative amount outstanding
March 1, 1934	June 1, 1934	92	$ 2,450,000	2.85	$.
March 1, 1934	November 1, 1934	245	12,550,000	3.12	15,000,000
April 18, 1934	July 1, 1934	74	1,600,000	2.41	..
April 18, 1934	October 1, 1934	166	13,400,000	2.71	30,000,000
November 1, 1934	February 1, 1935	92	1,600,000	2.35	..
November 1, 1934	May 1, 1935	181	18,400,000	2.47	20,000,000
February 6, 1935	May 1, 1935	84	18,300,000	2.05	36,700,000
March 22, 1935	June 22, 1935	92	15,000,000	1.758	51,700,000
April 15, 1935	July 15, 1935	91	15,000,000	1.698	66,700,000
June 22, 1935	September 22, 1935	92	15,000,000	1.555	30,000,000
July 15, 1935	October 15, 1935	92	20,000,000	1.385	35,000,000
August 1, 1935	November 1, 1935	92	30,000,000	1.233	65,000,000
August 15, 1935	November 15, 1935	92	20,000,000	1.222	85,000,000
September 11, 1935	December 11, 1935	91	20,000,000	1.287	105,000,000
September 29, 1935	December 31, 1935	93	15,000,000	1.363	105,000,000
October 15, 1935	January 15, 1936	92	20,000,000	1.410	105,000,000
November 1, 1935	February 1, 1936	92	30,000,000	1.301	105,000,000
November 15, 1935	February 15, 1936	92	20,000,000	1.271	105,000,000
December 11, 1935	March 16, 1936	96	20,000,000	1.249	105,000,000
January 2, 1936	April 1, 1936	90	25,000,000	1.197	115,000,000
January 15, 1936	April 15, 1936	91	25,000,000	1.158	120,000,000
February 1, 1936	May 1, 1936	90	30,000,000	1.092	120,000,000
February 15, 1936	May 15, 1936	90	20,000,000	1.055	120,000,000
March 16, 1936	June 15, 1936	91	20,000,000	0.999	120,000,000
April 1, 1936	July 2, 1936	92	25,000,000	0.926	120,000,000
April 15, 1936	July 15, 1936	91	25,000,000	0.879	120,000,000
May 1, 1936	August 1, 1936	92	30,000,000	0.920	120,000,000
May 15, 1936	August 15, 1936	92	20,000,000	0.896	120,000,000
June 15, 1936	September 15, 1936	92	20,000,000	0.838	120,000,000
July 2, 1936	October 1, 1936	91	25,000,000	0.798	120,000,000
July 15, 1936	October 15, 1936	92	25,000,000	0.757	120,000,000
August 1, 1936	November 2, 1936	93	30,000,000	0.727	120,000,000
August 15, 1936	November 16, 1936	93	20,000,000	0.689	120,000,000
September 15, 1936	December 15, 1936	91	20,000,000	0.643	120,000,000
October 1, 1936	December 31, 1936	91	25,000,000	0.686	120,000,000
October 15, 1936	January 15, 1937	92	25,000,000	0.702	120,000,000
November 2, 1936	February 1, 1937	91	30,000,000	0.730	120,000,000
November 16, 1936	February 15, 1937	91	25,000,000	0.749	125,000,000
December 1, 1936	March 1, 1937	90	20,000,000	0.766	145,000,000
December 15, 1936	March 15, 1937	90	25,000,000	0.747	150,000,000
December 31, 1936	April 1, 1937	91	25,000,000	0.746	150,000,000
January 15, 1937	April 15, 1937	90	25,000,000	0.747	150,000,000
February 1, 1937	May 1, 1937	89	30,000,000	0.759	150,000,000
February 15, 1937	May 15, 1937	89	25,000,000	0.776	150,000,000
March 1, 1937	June 1, 1937	92	20,000,000	0.795	150,000,000
March 15, 1937	June 15, 1937	92	25,000,000	0.805	150,000,000
April 1, 1937	July 2, 1937	92	25,000,000	0.786	150,000,000
April 15, 1937	July 15, 1937	91	25,000,000	0.771	150,000,000
May 1, 1937	July 31, 1937	91	20,000,000	0.749	140,000,000

and loan companies, the Post Office Savings Bank, the Province of Ontario Savings Office and the two large savings institutions in Quebec, namely, The Montreal City and District Savings Bank and La Caisse d'Économie de Notre Dame de Québec. The bulk of savings deposits in the Dominion is held by the chartered banks. From the turn of the century to 1933, rates of interest returns on savings deposits with the chartered banks were stable, and in the case of other institutions did not vary to any important extent. However, in 1933, all the depositaries above mentioned initiated a series of reductions in the rates allowed on savings deposits; with the result that rates obtainable at the present time range from two-thirds to one-half of those which prevailed in 1929. The general rate allowed by each of these depositaries in 1929, the rates now effective, and the changes in rates since 1929 are set out in table IX.

In addition to savings deposits, the chartered banks hold another group known as current or demand deposits. The former amount to a larger sum, but by means of cheques drawn on the latter, the bulk of the public, commercial, and financial business of the country is transacted. It has been the policy of the banks for many years to allow no interest on current accounts in general, although in the case of a few depositors individual negotiations led to interest being paid at a rate substantially lower than that on savings accounts. The banks agreed that after January, 1936, interest on all current accounts would be discontinued.

Bank Loans and Advances

Since 1929 rates of interest and discount charged by the chartered banks on loans and advances in Canada have undergone important decreases. For many years previously rates of interest and discount had differed according to the class of loan; but the rates in each class had shown small change from time to time. Short term credit accommodation in Canada always has been, and still is, largely a matter of private arrangement between the chartered banks and their customers. This practice has produced the following results: (1) no supply of commercial bills or acceptances becomes available for sale in the open market, although a few Canadian corporations have from time to time sold their commercial paper in the New York market; (2) no facilities outside of the chartered banks have been developed for dealing in short term paper; and (3) no central short term market has arisen where the banks compete to loan money at call against the security of bonds and stocks.

The absence of an open short term money market has been due to the same conditions responsible for the traditional stability in rates of bank interest and discount. These conditions consist principally of the paucity of domestic and foreign capital seeking short term commitment in Canada, the considerable degree of economic in-

TABLE IX

SAVINGS DEPOSITS

General Rates Allowed by Certain Depositaries in Canada, 1929-37

Source: Information supplied by the various depositaries.

Depositary	General rate allowed		Changes in general rate since 1929
	Throughout 1929	In May 1937	
	Per cent	Per cent	
Chartered banks	3	1½	May 1, 1933, reduced to 2½ per cent, Nov 1, 1934, reduced to 2 per cent; and June 1, 1936, reduced to 1½ per cent.
Post Office Savings Bank	3	2	May 1, 1933, reduced to 2½ per cent; and Nov. 1, 1934, reduced to 2 per cent
Province of Ontario Savings Office	3	1½ and 2	May 1, 1933, reduced to 2½ per cent; Nov. 1, 1934, reduced to 2 per cent; June 15, 1935, raised to 2½ per cent; May 1, 1936, reduced to 2 per cent on accounts over $10,000 but continued at 2½ per cent on accounts up to $10,000, and July 1, 1936, reduced to 1½ per cent on accounts over $10,000 but continued at 2 per cent on accounts of $10,000 or less.
The Montreal City and District Savings Bank	3	1½ and 2	May 1, 1933, reduced to 2½ per cent; Nov. 1, 1934, reduced to 2 per cent; and June 1, 1936, reduced to 1½ per cent in respect of new deposits, but rate of 2 per cent continued on accounts existing on June 1, 1936.
La Caisse d'Économie de Notre Dame de Québec	3	1½ and 2	May 1, 1933, reduced to 2½ per cent; Dec. 1, 1934, reduced to 2 per cent; July 1, 1936, rate reduced to 1½ per cent on accounts over $10,000, but continued at 2 per cent on accounts up to $10,000.
National Trust Company Limited (representative of general practice of trust and loan companies in Canada)	4	2	June 1, 1933, reduced to 3½ per cent; July 1, 1934, reduced to 3 per cent; Jan. 1, 1935, reduced to 2½ per cent; July 1, 1936, reduced to 2 per cent.

TABLE X

RATES OF INTEREST CHARGED BY THE CHARTERED BANKS ON FOUR CLASSES OF LOANS: 1900-30 AND 1937

Source. Although the banks have never published the rates charged on these classes of business this material has been collected from a number of reliable sources and verified as far as possible.

Class of loan	Eastern Canada		Western Canada	
	1900-30	May, 1937	1900-30	May, 1937
	Per cent	Per cent	Per cent	Per cent
Commercial	6 - 7	5 - 6	6½ - 7½	5 - 6½
Call	6 - 6½	4½ - 5½	6 - 7	4½ - 6
Municipal	6 - 6½	3 - 5	6 - 7	4 - 6
Farmers	7 - 8	6 - 7	6 - 10	6 - 7

stability in this country, and the comparatively narrow domestic market for bonds and stocks. The last two factors reduce the liquidity of short term loans and advances. The relaxation in rigidity of rates after 1929 has been due more to the substantial decline in demand for bank accommodation than to any important alteration in the basic conditions which produced rate immobility up to 1929.

The course of rates charged for bank credit is indicated in tables

TABLE XI

AVERAGE RATES OF INTEREST AND DISCOUNT CHARGED BY THE CHARTERED BANKS BY TYPES OF LOAN, 1935-6

Source: Material supplied by the Inspector-General of Banks, Ottawa.

Type of loan or advance	Average interest*		Average discount*	
	1935	1936	1935	1936
	Per cent	Per cent	Per cent	Per cent
Any advance or loan to or guaranteed by the Dominion or provincial governments	4.38	3.91	4.68	3.53
Any advance or loan to or guaranteed by cities, towns, municipalities, and school districts	4.42	3.92	4.95	4.61
Any call and short term loan to bond dealers and stock brokers	5.17	4.54	4.64	3.85
Any advance or loan other than the foregoing	5.65	5.28	6.21	6.04
On the whole amount of all loans and advances made in Canada	5.28	4.92	6.08	5.91

*The average rate for each classification of loan or advance represents the simple average of rates reported for such classification by all chartered banks. The average rate reported by each bank for each classification is weighted to reflect the approximate volume of loans and advances at the several rates effective in respect of such classification.

X and XI. The approximate range of rates effective in Eastern and Western Canada compiled by several types of loans over the period 1900 to 1930 and the general rates now prevailing are set out in Table X. Official statistics of average rates effective in the years 1935

TABLE XII

MORTGAGE RATES IN VARIOUS PARTS OF CANADA, 1929-36

Experience of One Company* which Operates throughout the Whole of Canada

Source: Years 1929 to 1931, Appendix to *Minutes of Proceedings and Evidence April 4, 1933, Select Standing Committee on Banking and Commerce,* p. 78.
Years 1932 to 1936, The Dominion Mortgage and Investments Association.

	1929	1930	1931	1932	1933	1934	1935	1936
Weighted average rate of interest on new business accepted and completed								
	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent
Ontario (including Montreal)	7.11	6.92	6.65	6.53	6.84	6.41	6.04	5.77
Manitoba	7.04	7.12	7.00	7.00				...
British Columbia	7.11	*7.15	7.17	7.08		8.00	7.00	6.07
Alberta	7.81	7.39	7.29	...	.	.	...	.
Saskatchewan	7.37	7.76	7.61		..		7.00	
New Brunswick	7.63	7.43	7.07			7.00	6.23	6.11
Nova Scotia	7.44	7.61	7.50	7.50	.	6.86	7.15	5.69
Oxford County, Ont	6.85	6.98	6.70	*6.50	.	..	6.50	5.56
Brant County, Ont.	7.00	7.00	7.00	..		7.00	.	5.74
Average	7.10	6.99	6.84	6.60	6.84	6.43	6.05	5.80
Weighted average rate of interest on amount renewed during year								
Ontario (including Montreal)	6.83	6.89	6.80	6.99	6.77	6.71	6.00	5.73
Manitoba	7.36	7.45	7.29	7.29	7.09	7.00	6.96	6.32
British Columbia	7.17	7.41	7.39	7.85	7.39	7.09	6.61	6.55
Alberta	7.99	7.90	8.12	8.11	8.00	7.02	7.00	6.92
Saskatchewan	7.89	8.12	7.65	7.93	7.79	7.00	7.00	6.72
New Brunswick	7.50	7.56	6.91	7.09	7.00	7.10	6.97	6.08
Nova Scotia	8.08	7.71	8.00	8.00	7.15	7.41	6.69	6.70
Oxford County, Ont	6.81	6.50	6.50		6.50	6.00	6.35	5.75
Brant County, Ont.		7.00	7.00		.	6.50	6.00	6.00
Average	7.04	7.05	6.90	7.04	6.79	6.90	6.16	5.84
Weighted average rate of interest on all renewals and new business in Canada								
Average	7.08	7.01	6.87	7.01	6.80	6.79	6.13	5.83
Index	100	99.0	97.0	99.0	96.0	95.9	86.6	82.3

*In 1936 this company, along with others, agreed to reduce the interest rate on all farm mortgages in Saskatchewan and Manitoba to 6 per cent. While the arrangements in Saskatchewan and Manitoba were made in 1936, the mechanics of completing the renewal agreements require time and the great majority will be reflected in the 1937 figures. A similar offer has been made in Alberta but has not yet been consummated because that province has enacted a compulsory debt reduction Act, the validity of which is now in question before the Court of Appeal.

and 1936 were compiled by type of loan or advance, and are set out in table XI.

The rate at which the Bank of Canada will make advances to the chartered banks has been 2½ per cent ever since March 11, 1935, when the central bank began business. A few advances of small amounts have been made by the bank at this rate. Before that, it was possible for, and at times a practice of, the chartered banks to obtain advances of Dominion notes from the Department of Finance under the Finance Act. On these advances, from May 1, 1933, to March 11, 1935, the rate was 2½ per cent (except on advances secured by Dominion of Canada 2-year 4 per cent notes due November 1, 1934, and temporarily extended, for which rate was 3 per cent; and on advances secured by Dominion of Canada 1-year 2⅞ per cent treasury bills due August 1, 1934, for which rate was 2 per cent). A complete table of the rates previously charged on Finance Act advances may be found on page 41 of the *Report of the Royal Commission on Banking and Currency, 1933;* and need not be reproduced here. During the depression the rates fell by steps, from the level of 4½ per cent which prevailed throughout 1929.

Private Mortgage Loans

Investment in new mortgages in each year since 1929 has been of limited volume; particularly in the years 1931, 1932, and 1933, when financial distress impaired the credit standing of borrowers in many sections of the country and provoked the enactment of emergency laws, in most of the provinces, which reduced the contractual rights of mortgage holders. Statistics of the rate of interest return obtainable from this type of investment over a long period of time are very incomplete, as mortgages are not negotiated in the open market but are largely a matter of private arrangement between institutional or private investors and the borrower. However, based on such data as are available, it would appear that rates of interest on mortgages have decreased since 1929. The extent of the decline has differed between geographical areas. Table XII presents the experience of one representative company; index numbers computed on the basis of the movement of the several rates may reasonably be considered as indicative of the course of interest returns since 1929.

Available data indicate that in past years conditions producing changes in yields on high grade long term bonds have been reflected, but to a less important degree, in the movement of interest rates on mortgage loans. The relatively low level of rates now current and the downward trend of rates in recent years have been due to the co-operative efforts of governments and mortgage holders to relieve distressed debtors, to an increased discrimination on the part of investors in the quality of new mortgage loans, and in part to the influence of easy money conditions.

II. THE EFFECTS OF MOVEMENTS OF INTEREST RATES

The background against which the consequences and implications of lower interest returns in Canada must be examined is one of depression and partial recovery. Since early in 1932, interest returns on high grade bonds have tended almost steadily downward. This has been due in part to capital's lack of confidence in anything but the highest quality of investment, in part to the replacement of commercial loans by bonds in the banking system, and in part to a deliberate easy money policy initiated by government through the expansion of bank reserves and of bank credit to finance deficits. This easy money policy has had for its main purpose the maintenance of national solvency through lightening the burden of interest charges on debt already created and obtaining low rates on new borrowings to meet heavy relief payments. This purpose has sometimes been masked by another advanced in the cause of cheap money: namely, that private capital undertakings would be stimulated by a reduction in their interest cost, thus promoting recovery and leading to fuller employment.

Interest is the hire price of money or capital and represents the existing relationship between debtor and creditor. The market rate of interest is composed of two elements: (*a*) the pure interest factor or riskless rental rate, and (*b*) the risk factor, this latter being an evaluation of the credit of the borrower in the eyes of the lender. Around the investor or owner of capital, the market revolves. Capital is always seeking an outlet at a rate commensurate with the risk involved. A deflationary background is not conducive to confidence and for this reason the risk factor has prevented a fuller alleviation of the situation of debtors than has actually occurred.

Among our major governments, the Dominion has reaped marked benefit from its own easy money policy. The average interest rate on direct debt has been reduced from 4.92 per cent in 1931 to approximately 3.87 per cent as of March 31, last. This has been accomplished by the refunding of maturing or callable bonds, the creation of additional debt at progressively lower rates, and the development of a short term money market for treasury bills in Canada.

The Eastern Provinces—Ontario, Quebec, and the Maritimes—have been able also to reduce the carrying charges on their outstanding capital obligations, but in each case additions to debt have been substantial. In the Prairie Provinces, however, an unexampled series of drought conditions on top of an already heavily mortgaged economy has increased the risk factor to such an extent that these provinces have been unable to approach the capital market for new money either for current expenditures or for refunding purposes. British Columbia, until very recently, has suffered from lack of confidence on the part of capital and the prevalence of lower interest returns has been of little benefit.

Municipal debt has shown the smallest increase during this period. Annual provision for debt retirement has made refunding almost unnecessary. Additions to debt have been mostly for current purposes, and have borne progressively lower coupon rates, but such issues have been made only by municipalities which have displayed prudence in the management of their affairs. Confidence has been badly disturbed by the defaults which have occurred; and as a result, a large proportion of our municipalities have been unable to borrow at all.

Governmental debt—federal, provincial, and municipal—is estimated to have increased by $1,800 million since March 31, 1931, during a period of progressively easier money conditions. This is attributable to the paternal attitude adopted by the state toward the individual deprived of subsistence. If these social expenditures have all been necessary, then it may be said that lower interest rates have aided materially in financing the depression. But easy money is an inducement to borrow: and if easier borrowing conditions have led to a funding of expenditures which might otherwise not have been made or might have been met, at least in part, out of current revenue, then it may be that our bargain has been a bad one. The test will come during the next depression; and it is feared that unless governmental debt is substantially reduced during the interval even easy money will not be sufficient to maintain national solvency then.

Corporate debtors have been quick to take advantage of lower interest rates, once earnings and interest coverage began to increase, through the refunding of their existing debt. Many of our best corporations have been able to effect substantial savings, not only in interest charges, but also through the elimination of the holders' option for payment in either sterling or American funds (or both) as well as Canadian funds. Some marginal corporations, however, have found, after refunding, that little was left after paying callable premiums, new issue costs, and commissions. Others also, bearing pre-depression capitalization, have received little benefit.

Lower interest rates have been made available to many mortgagors upon renewal of their existing agreements, provided always that the mortgagors' credit record was good and the loan reasonably secured. The property holder, with only a small equity, or the home owner who has hidden behind mortgage moratorium legislation has had very little benefit from the lower rates.

Easy money has not been available to all debtors. This has caused a great deal of political and individual agitation for legislation to reduce arbitrarily all interest rates on existing debts without regard to the present contractual basis and without regard to the credit worthiness of the debtor. Such agitations, so far from accomplishing their purpose, have helped to destroy confidence and have increased the lenders' evaluation of risk. Make the pure interest rate what you will, the risk factor must still be dealt with.

Reverting to the creditor side of the equation, lower interest returns have meant a redistribution of the national income. The wages of capital usually find their way to a relatively small portion of the population, one which is constantly faced with the problem of reinvestment. It follows that a smaller percentage of the income received by this group is expended in the purchase of goods than is the case with individuals who are dependent on wages and salaries. Lessened interest returns to capital should allow a proportionately higher distribution in the wage and salary division leading to increased aggregate purchasing power and a higher degree of business activity. Although it can be argued that this redistribution is an advantage to the country as a whole, application of cheap money has meant sacrifices by investors; particularly those dependent on fixed incomes, which have fallen, in some cases, to a point that has entailed suffering to a class of hard working, thrifty people. Many beneficiaries of trust funds now find encroachment on capital necessary. A possible outcome is that another class will become wards of the government.

Lowered interest returns have decreased the earnings of our chartered banks, although interest on deposits has declined as partial compensation. This has made the provision of adequate reserves for contingencies more difficult and is of particular importance when it is considered that monetary control has forced the banking system to absorb bonds at increasingly higher prices for financing government deficits. At March 31, 1937, total deposits were approximately $2,300 million and of this $1,420 million were represented by security holdings, $945 million of which were longer than two years in maturity. Easy money will have been instrumental in creating a problem for our banking system if there should be any rapid revision downward in bond prices. A 10 per cent fluctuation in capital value of security holdings of over two year maturity would have a pronounced effect upon the reserve funds of the banking system unless adequate internal reserves are maintained. The increasing dependence of banks on "loans to strangers" or bonds has also made a fundamental change in banking investment practice where the bond account has become the centre of interest instead of being a subsidiary activity to the loaning of funds for commercial purposes.

Although other financial institutions do not, as a rule, undertake to act as depositaries for money which can be obtained any time on demand, nevertheless the hazard of portfolio depreciation is always present when bond assets are being acquired at seemingly inflated prices. Unless the new basis is well sustained, a severe strain will be placed on creditor institutions during the transition period.

Lower interest returns have been a deterrent to investment in bonds and have led to a large fund of private money seeking a more profitable outlet. The rapid increase in stock market prices which has occurred during the last three years is a reflection of the application of the theory of alternative investment. Large movements of capital in search of greater income or capital appreciation are quickly reflected in stock prices and have a grave psychological effect as they rapidly assume boom proportions. The culmination of these booms, as well as occasioning loss to the participants, has a very unsettling effect on confidence. Artificial prices are dangerous in any field, but particularly so in the case of bond prices and stock prices where the effects permeate the entire economic system.

The method by which artificially easy money has been brought about, namely, expansion of bank reserves and bank credit which has been used by the government to finance deficits, has been inflationary in character. Credit has been brought into being as a result of governmental needs, not business expansion. Deposits today are equal to the 1929 figures, but velocity of turnover is still well below the level of that year. Money is almost a drug on the market. Monetary glut has usually preceded a strong upward movement in commodity prices and a consequent increase in the cost of living. It is true that inflation has not yet caught hold, but the basis is laid, and our controls have not been tested. Much more is known to-day about the theory of money and credit, yet we are on an uncharted sea. The old so-called automatic controls have been suspended in favour of planned management, and the managers must be able to regulate this mechanism in delicate responsiveness to the currents and eddies of commercial need, always impartially as amongst adverse groups. Is such saintly management possible, and if so, will our controls be effective?

A great deal of stress has been laid on the importance of cheap money in promoting business recovery and fuller employment. It is said that cheap money entices private enterprise to borrow for expansion and thus shifts the burden of maintaining subsistence from government to private industry. Looking back from the vantage point of the fifth year of recovery, it is difficult to assess the part that artificially easy money has played in recovery, but it is clear that the benefits of low interest rates have been slow to work through the economic structure. Recovery has come; and this revival differs little from its predecessors in general pattern. There is little evidence, however, that industry has rushed to borrow on the strength of low interest rates. Current and commercial loans of the banks are still 48 per cent lower than those existing in 1929, and only a few million above the recent low point. Borrowings by corporations for plant expansion or new enterprise are still only nominal in amount. Building contracts have been stimulated by housing and home improvement schemes, as well as by cheap money, in an effort to "prime the pump" in the capital goods industries. The mere existence of cheap money is evidently not enough. Confidence, or lack of it, has also played a major role.

The Canadian public have been "sold" on the necessity and advantage of low interest rates on the theory that low interest rates and recovery are synonymous. In most cases interest is only a minor item in the cost of production and is becoming increasingly less important as speedy transportation narrows the distance between producer and consumer. If too much stress is laid upon the importance of cheap money as a means of maintaining and improving economic activity, small interest rate changes may have an altogether disproportionate effect on confidence and in magnifying business fluctuations. As investors try to anticipate and meet conjectured changes in monetary controls, capital markets are becoming increasingly sensitive to political utterances and to minor changes in business factors. The business world is in no position to pursue a clearly marked path to prosperity.

In conclusion, lower interest rates have been an immediate advantage to Canadian governments in the financing of the heavy relief requirements and in refunding at low cost; but if easy borrowing conditions have led to an unjustifiable increase in our debt through wasteful handling of the relief payments, then the immediate advantage may be nullified to a large extent. Time will provide the answer. Whether artificially low interest rates have retarded or prompted recovery will doubtless never be settled to the satisfaction of all. Evidence seems to be lacking that private enterprise has reacted strongly to the stimulant of cheap money; but it has been apparent that easy money has caused a speculative boom in the stock market and laid the basis for inflation of commodity prices and the cost of living. I believe it is fair to say that natural low interest rates are an aid to legitimate business progress but that artificially low rates keep money below its real worth and militate against a sound recovery by setting forces in motion which later involve serious readjustments. Our economy can be kept in equilibrium only if the interest rate is allowed to perform its full regulatory function.

III. The Future of Interest Rates

Current discussions of the future of interest rates have many of the characteristics of religious or political controversy. It seems impossible to approach the subject without bias. Our opinions almost inevitably become coloured by preconceptions of the possibilities or limitations of interest rates as an economic or even as a social force. Our ideas on what interest rates ought to do or ought to be are very apt to influence our views on the course that interest rates are likely to follow. Some of the recent pronouncements on the course of interest rates emanating from both academic and financial circles read suspiciously like "tracts for the times."

What is likely to be the trend of long term interest rates? If it were possible to take a ballot of the professional investment community, those who in the day-to-day course of their business are investors or dealers in fixed interest bearing obligations, the majority opinion concerning the future of interest rates would in all probability be found to be something like this: "The turning point in the interest rate cycle was probably passed last year. Interest rates have already begun to rise, and from now on a gradual continuance of this trend seems probable." Now, leaving aside for the moment an enumeration of the reasons for this belief, and discussion of their validity, I suggest that the very fact of its existence is in itself a not unimportant influence on the immediate course of interest rates. Under present-day conditions, by far the greater part of investment in securities within the "money rate" category is done by a relatively few professional investors. Under such circumstances the impact of concerted action based upon the general anticipation of a trend may, over the short-run, over-discount it appreciably. Fundamental factors may be changing, but perhaps not nearly so rapidly as the action of high grade bond prices since the end of the year would indicate. Be that as it may, well-informed bond investors are viewing the future with suspicion. Yet certain factors militate against a continued rise of rates. Money is still plentiful, and for most institutions charged with the responsibility of investing other people's funds the purchase of gilt-edged securities must go on in the regular course of business. Even if the legal or practical limitations surrounding their trusteeship permitted a heavier investment in equities or second grade bonds, the interest return from these categories is unattractive, whatever may be their speculative possibilities. It is left to the private investor to rush in where the institutional buyer cannot or dare not tread. In the absence of any important increase in alternative outlets for *investment* funds, the hackneyed query "If we sell our high grade bonds what do we do with the money?" still lacks a satisfactory answer.

About the only practical recourse as yet available to the institutional investor who fears the market trend, is to shorten the term of the investments under his supervision, and shortening term is now fashionable investment practice. But even this expedient is limited by the fact that really short term interest rates are already very low. To forgo the 3.30 per cent return available from an eighteen year Canada 3 per cent bond in favour of 2.30 per cent return from a five and a half year 3 per cent bond entails a very considerable sacrifice in yield, and one which an insurance company, for example, could hardly afford to accept. Then, too, the preference for securities of great liquidity, in so far as it can be exercised, is in itself a force tending to keep down shorter term yields, so helping to maintain the spread between long term and short term rates. The result is added protection to the long term rate against increase.

While this liquidity preference exists, new offerings of securities must cater to popular demand. A fifteen year maturity seems, at the moment, to be about the maximum term that the market is willing to look at. It is significant that the Dominion government in its conversion operation on May 5 offered to holders of maturing 5½ per cent Victory Bonds the choice of twelve year, five year, and two year maturities. Yet less than nine months ago the Dominion sold an issue of "perpetuals", which holders are now ruefully contemplating at something like nine points under the issue price. Now, this present demand for medium and short term securities raises a point worthy of passing notice. Because of the prevailing situation, public borrowers, whose issues command confidence, can get money at short term at very low cost. In so doing they are, perhaps unconsciously, following Mr. Keynes's advice to "profit by the anxieties of the public and save interest by supplying the liquidity demanded."[1] Another result of the ease with which shorter term securities can be sold may be to give another section of the public, unversed in money market technicalities, an entirely erroneous idea of what their credit is "worth."

Be that as it may the significance for the future is clear. The large amount of short term indebtedness means that borrowers have to-day, more than ever, a "vested interest" in the maintenance of the present level of short term rates. This gives them a concern in the maintenance of the present *scale* of money rates. For if the past is any guide, on an upward swing in the general level of money rates the spread between long term and short term rates tends to narrow and ultimately to disappear.

So much for the prevailing majority opinion and its manifestations. The logical processes on which this opinion is based may, of course, range all the way from the "common sense" observation that "the bond market can't stay where it is forever" to closely argued interpretation and analysis of current trends and their future significance. In this necessarily brief paper, attention will be given to two broadly representative schools of thought that arrive at the same conclusion from arguments based upon hypotheses that are different. First, we have what might be termed the "fundamentalist" point of view which has as its basic thesis the proposition that higher interest rates are the *natural* consequence of the interplay of economic laws as "inevitable" as the law of gravity. Interest rates, according to this view, will be forced up, whether we like it or not, by a growing demand for credit to finance commercial loans, mortgages on real estate, stock market transactions, and, for a time at least, armament expenditures. Indeed, demand from these sources is already on the increase. This trend will also be accelerated by an upward movement in commodity prices which has already become apparent. The result will be a cumulative upward spiral making progressively greater demands upon the credit base. Ultimately, credit stringency will reverse the process, and bring about the inevitable deflation. Such a view obviously discounts the ability of governments or central banks to keep money rates low when pure economic forces tend to pull rates the other way. To quote Professor Edwin Kemmerer, "The claim which one is nowadays continually hearing that the Government is planning to hold interest rates indefinitely down to their present very low levels seems naive and childlike."[2] The case of the "fundamentalist" is strengthened by reference to the past. He can show that as far back as records go there always has been a close correlation between the cyclical swings of interest rates, and commodity prices. He sees no reason why we should expect any very different state of affairs to prevail in the future and is apt to remind us that he has heard of "new eras" before.

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[1] See J. M. Keynes's address as chairman of the National Mutual Life Assurance Society, Annual Meeting, Feb. 24, 1937.

But there are others who tell us that we must look for higher interest rates for the very reason that we *have* entered a "new era" of purposive monetary control. They are quite ready to admit that it is now within the power of monetary authorities to influence the course of interest rates. But they point out that easy money, while desirable under certain conditions, is not an end in itself. We have, we are told, now reached a stage where the claims of easy money must give way to other more important considerations. At the point now reached in the recovery cycle, so the theory runs, monetary authorities would do well to make money dearer, to restrict credit in order to forestall the development of an inflationary boom and its subsequent collapse. This, in broad outline, is the thesis developed with particular reference to American conditions by Mr. L. L. B. Angas in his pamphlet *Slump Ahead in Bonds,* which in the past few months has become a financial "best seller." The "Angas Theory" starts from the assumption that the United States is going to continue in a new era of managed money, and, therefore, "the whole

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[2] See *Trends in Interest Rates,* an address before The American Finance Conference Nov. 18, 1936, published in pamphlet form by Manhattan Foundation Inc., 44 Wall St., New York.

Trade Cycle as we have learned to know it, may now be dead." The courses of interest rates, prices, wages, and business are now, he tells us, dependent upon the will of a triumvirate made up of President Roosevelt, Mr. Morgenthau, secretary of the Treasury, and Mr. Eccles, chairman of the Federal Reserve Board. These three gentlemen, says Mr. Angas, have been responsible for initiating business recovery by inflating bank credit. But if they are to do the right thing at this juncture (and incidentally, Mr. Angas points out that their political reputations depend on their managerial skill), they will now "put on the brakes" in order to prevent "a wild price inflation occurring as a result of a rapidly reviving velocity of money." Reduction of excess reserves is a step in the right direction, but more positive measures will be necessary if boom and collapse are to be avoided. The final advice given us in Mr. Angas's pamphlet is to study—not the business cycle of the past—but "the minds of Eccles and Roosevelt, for they *are* 'The Monetary Control.' "

The influence of *Slump Ahead in Bonds* on current investment opinion in the United States and Canada has been very considerable. Indeed, some people credit this pamphlet with causing the Federal Reserve Board to announce, at the end of January, the 33 1/3 per cent increase in member banks' reserve requirements. Whether this be true or not, Mr. Angas has a reputation and a shrewd sense of salesmanship. His arguments are marshalled in concise "snappy" form calculated to appeal to the busy business man. There are one or two chapters on "theory" but a note at the head of the page tells the readers he can skip these. Indeed, we need not even read the pamphlet since the whole argument is summarized on the flyleaf; giving those of us who are pretty busy anyway a ready-made set of logical reasons for a belief that may have formerly existed only as a vague suspicion that bond prices were too high.

Yet there are a few sceptical souls who remain unconvinced either by the fundamentalists or by such higher critics as Mr. Angas. The latter group seem only to offer a choice of slumps. In the name of sound monetary control, we are to welcome a slump in bonds in the immediate future as preferable to a slump in stocks, prices, and business activity later on; quite some time later on, it would appear, since even the boom which is to be checked seems to linger yet awhile. May it not be a bit premature to talk of the need for tighter money when resources of capital and labour are still not fully employed? The construction industry, wherein so much unemployment centres, is still languishing, and to construction above all else, higher interest rates would be a serious handicap. True, some basic raw materials may have been advancing due to the temporary stimulus of armament demands; but even here a corrective movement has already taken place. True also, the stock market has been showing signs of over-ebullience; but that situation too seems to be correcting itself. In any event, if these specific situations must be controlled, cannot specific remedies be applied, without recourse to such a pervasive deflationary influence as an increase in the general level of interest rates? If the alternatives are as uncompromising as Mr. Angas would have us believe, is there not something to be said for taking a chance on the future and seeking to avoid the immediate consequences of the slump in bonds; consequences that might be just as devastating and just as far-reaching as those arising from this still hypothetical boom and collapse? In the words of Colonel Ayres, well-known economist of the Cleveland Trust Company, is not this talk of checking bank credit expansion and restraining prices advances tantamount to "locking the stable door before the family horse has even been acquired"?[3]

Those of us who, for reasons such as these, cannot yet subscribe to the belief that interest rates should be made to rise, are not without a spokesman in high places. "If," says Mr. Keynes, "we play with dear money on the ground that it is 'healthy' or 'natural' then I have no doubt that the inevitable slump will ensue. We must avoid it, therefore, as we would hell-fire. It has been the occurrence of dear money hitherto which has joined with other forces, to make a slump inevitable."[4] And Mr. Keynes would lead us even further. Not only is it undesirable that interest rates should rise, but it is also unnecessary that they should. His conclusions are a challenge to those who hold that interest rates are the "natural" effect of blind economic force. Stressing the vast resources at the control of the Bank of England and the Treasury, he concludes that "if we know what rate of interest is required to make profitable a flow of new projects at the proper pace, we have the power to make that rate prevail in the market."[5] In this contention he has support from *The Economist.* In its issue of May 8, after reviewing the mechanism of control now in the hands of the government, that journal concludes quite simply: "If the Government of the day desires cheap money, there will be cheap money. . . . The real question of the future is whether the Government of the day, whatever its complexion, can be relied upon to use its new instruments wisely, guided by economic, rather than political considerations."

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[3] See the April, 1937, monthly bulletin of the Cleveland Trust Company.
[4] "How to Avoid a Slump" (*The Times,* London, Jan. 13, 1937).
[5] *Ibid.* (*The Times,* Jan. 14, 1937).

Quite enough has been said thus far to indicate the mass of conflicting opinions available for our confusion. Yet it is surely significant that the focal point of the controversy is this matter of purposive control. Whatever may be individual opinions on this point I think we must agree that the argument is going to be settled by practical experiment. Managed money is here to stay.

It is, I think, obvious that the years since 1931 have seen a great and far-reaching change in the attitude of the general public toward such economic phenomena as the business cycle, the rate of exchange, and the rate of interest. Due to the combined efforts of economists, publicists, and politicians, the workings of the economic order have been expounded to the layman until to-day every adult who reads the daily papers is by way of being his own economist—sometimes with weird and wonderful results. Out of all this there has emerged a tremendous emphasis on the social implications of economic processes which are no longer regarded as automatic or inevitable and therefore beyond human control. The gold standard, old style, to-day stands "debunked" and discredited. Apparently in this brave new world it is no longer necessary to submit to the automatic workings of a deflationary process in order to maintain the external value of our currency. We have central banks and stabilization funds run by wise men whose job it is to regulate the rate of exchange on our behalf. To an even greater degree certain ideas concerning the rate of interest have taken a firm hold upon the public mind. One of these is the belief that central banks can and do control money rates. Another, closely allied, is that the duty of governments and central banks is to keep money rates low. There is much more underlying this belief than mere wishful thinking, more than the apparently simple proposition that if it were not for easy money taxes would be higher than they are now. Time and time again in the past six years the layman has been told that low interest rates were a good thing for the country, a necessary background for business recovery and an aid to re-employment. If he were an investor or the owner of a participating insurance policy he could comfort himself, as his income returns declined, with the thought that after all he was making a contribution to the public welfare. If he were socialistically inclined he could rejoice in the thought that easy money was diminishing the return to "capital", thus leaving a greater share for labour. We have not time to speak of the cruder forms in which this belief has made itself manifest. Some of these are due to inadequate emphasis upon an economic principle; namely, that such mundane considerations as ability and willingness to pay still have quite a lot to do with variations in interest rates. The important point is that, in the minds of a great many intelligent people to-day, "easy money" is synonymous with the social good. Mr. Keynes has many disciples who follow him afar off, and who may never have heard his name.

Now the writer of this paper is not quite sufficiently naïve to argue that because "easy money" still persists as a popular social doctrine, maintenance of the present or even a lower level of interest rates is thereby guaranteed as a matter of political expediency. But he does feel that the situation as outlined nevertheless has some significance for the future. It suggests at least that so long as the belief persists, the onus will rest upon monetary authorities to show cause why an easy money policy should not be maintained. From here on the problem of control may be that of trying to make the best of two contradictory worlds—of attempting to retain the beneficent effects of easy money on the one hand while seeking to avoid the excesses that easy money can aggravate. Such an aim may be Utopian and already the practical difficulties loom large. Compared with the demands the future may bring, the technique of monetary management up to the present has been relatively simple, and foolproof. Since 1931 managed money has meant action to bring about easy money—there has been no dispute about the end in view. Further, additions to the credit base have been almost certain to work through the banking system into the purchase of government bonds. Three desirable ends were thus achieved: the level of interest rates was forced down, government deficits were readily financed, and the volume of bank deposit money was maintained or enlarged. To-day, with competing demands for money beginning to appear, we have no longer the same certainty that such a technique will produce equally desirable results. We are told, therefore, that "qualitative" as well as "quantitative" control will be necessary if speculative excesses are to be avoided. Perhaps this is but another way of saying that the maintenance of easy money in a period of business revival and rising prices means a very considerable extension of the powers of government in business and finance—a price that we may not be willing to pay. Just at present it may seem easy to "talk down" a boom in its incipient stages. Our little flurry in stocks and commodities in the first quarter of 1937 has since collapsed like a pricked balloon, in the face of a few warnings and a few rumours of a reduction in the price of gold. Apparently it is not difficult to exorcise a devil who being yet convalescent still retains some lingering aspirations to sainthood. But when the devil is feeling more himself again it may be a different story.

Through its freedom to interpret, to choose, and above all, to reject, intelligent investment opinion can do much to modify or to exaggerate the practical workings of official monetary policy. The writer's point of view may be influenced by his contact with the bond market, but he cannot avoid the conclusion that if a borrower's position becomes patently "unsound" or "dangerous" in the eyes of investors, no power on earth can prevent that borrower from suffering the consequences of *relatively* higher money rates. If the borrower happens to be a government with certain powers of credit control, so much the worse. Efforts to "control" the situation through monetary manipulation will only result in aggravating it. Even a warning signal put out by the monetary authorities with quite orthodox objectives may have consequences far beyond the original intent. We have recently had an example of this when the Federal Reserve Board, on February 1, ordered a 33 1/3 per cent increase in member banks' reserve requirements to become fully effective by May 1. Mr. Eccles as spokesman for the Board went to great pains to explain exactly what the action was expected to accomplish. It was to prevent the long-term bond market from making further advances, but not to force it down. So much for anticipation. But the "street" interpreted the announcement as a warning of tighter money ahead, and within the month of March, the yield on long term "U.S. Treasuries" rose by about ½ of 1 per cent. By the middle of March Mr. Eccles found it advisable to make a reassuring statement. By the middle of April the Federal Reserve Banks found it necessary to intervene with open market purchases to maintain "orderly" conditions in the bond market. This episode is illustrative not only of the difficulty of appraising public response, but also of the difficulty of estimating even near term monetary trends; since excess reserves on May 5, were $890,000,000 instead of the $500,000,000 which had been anticipated.

It will have been noticed that thus far in this paper no reference has been made to particular circumstances relating to the Canadian capital market. As far as the long term "riskless" rate of interest is concerned it may be said that Canada now enjoys as low a rate as prevails in London and New York. In investment parlance, the Canadian high grade bond market is pretty well in line with these two great external markets. Indeed, there have been brief occasions in the past twelve months when certain Dominion maturities were overvalued in relation to yields prevailing in one or both of these markets. Barring any appreciable further downward movement of long term interest rates in London or New York, it would seem, therefore, that comparable rates in Canada are about as low as they can go regardless of any possible change in our credit base in the direction of monetary ease. Conversely, it would be difficult, if not impossible, to isolate the Canadian money market from the effect of a marked rise in interest rates in external markets. Our optional payment bonds provide a powerful influence tending to tie us in directly with New York and to a somewhat lesser degree with London.[6] To a very great extent, therefore, the future of interest rates in Canada is a matter beyond our control. The only conceivable situation in which Canada could enjoy an appreciably lower level of "riskless" rates than those prevailing in England, or in the United States, would be one where investment in Canada would be relatively very much safer than elsewhere. That such a situation might arise is not beyond the bounds of possibility, but it does not appear to have much weight as an immediate probability. Indeed, one more frequently hears an opposite opinion expressed—namely that "high grade" interest rates in Canada are too low because Canadian credit is not intrinsically equal to that of England and the United States. Usually what lies behind this belief is an emphasis on the persistence of certain obvious national problems, together with a realization of the highly variable nature of the Canadian economy. The risk factor is always lurking in the background and can quickly come to the fore to overshadow a situation founded on an abundance of money.

As a matter of fact, this risk element is still very much in the foreground to-day. For whenever we speak of "easy money" in Canada, we must hasten to add, "for credit-worthy borrowers of course." As Mr. Bryden has made very plain in the paper which precedes this one, the catch is that there are so many borrowers who are apparently not credit-worthy. The writer does not like this term "credit-worthy"; it has a rather pharisaical tinge about it, implying that a great many public debtors in Canada are justly suffering for their sins. The truth of the matter is that for every isolated case of callous disregard of the investors' rights, there are many cases of honest effort to meet obligations in the face of almost heartbreaking difficulties. Perhaps, therefore, the most important immediate factor affecting the broad movement of money rates in Canada is the degree to which it may be possible to bring about readjustments that will reduce this risk element and so enable a wider diffusion of the benefits of easy money throughout our economy.

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[6] See W. T. G. Hackett, "Canada's Optional Payment Bonds" (*Canadian Journal of Economics and Political Science*, vol. I, May, 1935, pp. 161-70).

Part Four

INTERNATIONAL BALANCE OF PAYMENTS

CHAPTER XV

The Foreign Exchange Rate and the Mechanism of International Adjustment*

(WITH SPECIAL REFERENCE TO THE CANADIAN DOLLAR)

J. F. PARKINSON

A GLANCE at the statement of Canada's international accounts for any year will show that, aside from small disparities that may be set down to errors and omissions, the total international payments are equal to the total international receipts. On grounds of logic also we should expect to find an equality between the total purchases and sales of foreign exchange against Canadian dollars, which is all that the statement records. The question is, what kind of mechanism is it which ensures this balance? The multitude of international transactions requiring the transfer of funds from or to Canada are apparently entirely separate and distinct. If total Canadian exports should be suddenly increased by the tapping of new markets, exporters will possess additional supplies of foreign exchange which they will be anxious to convert into dollars. The question which has to be answered is: how does the fact of increased exports give rise to an equal and offsetting demand for foreign exchange against dollars? For this to occur there must be an increase in one or more of Canada's debit transactions, or a decrease in the supply of international credits other than trade credits. That is, some link between international receipts and payments must exist if equilibrium between the two is to be continuously preserved in the face of changing circumstances.

The search for an explanation of the mechanism of international adjustments began with the dawn of political economy, several hundred years ago. The answer to the riddle was found in the effect of gold or specie movements. Transfers of gold from one country to another arose whenever the balance was disturbed, and the final consequences of comparatively small gold movements on prices and

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incomes (and hence on production, imports and exports, etc.) were such as to re-establish a balance in the international accounts. With the improvement of economic analysis this theory of the gold standard has since been refined and elaborated.

However, we are now concerned with the mechanism of adjustment under an inconvertible paper currency—a somewhat different case. That is, we will assume that the gold standard has been abandoned so that the domestic currency is no longer convertible into gold at a fixed price and gold cannot be freely exported. As a result the rates of exchange between the domestic currency and those of other countries no longer possess an anchor to windward; they are free to drift with the winds of economic circumstance. With the exception of a brief *interregnum* from 1926-9 Canada has been in this position since 1914 and during the last decade the gold standard in its nineteenth-century form has been abandoned by almost every country, being superseded by "managed" currencies, some with and some without adequate gold backing, but nearly all subject to flexible exchange rates. Inconvertible paper currencies are now the rule, not the exception.

THE FOREIGN EXCHANGE MARKET

In view of the fact that Canada's external economic relations are concerned predominantly with the United Kingdom and the United States, we may assume at the outset that the only foreign currencies with which Canada is concerned are the pound sterling and the American dollar. That is, Canadian dealings in francs or yen or any other currency are made through the medium of pounds sterling or United States funds. In point of fact, this simplification is reasonably in accord with actual practice. The market in which Canadian dollars are exchanged against sterling and United States funds is provided by the banks and foreign exchange dealers of the three countries concerned. In effect, the banks act as brokers—buying and selling one currency against another for their customers. Since the financial centres of these three countries are linked together by cable and telephone, they constitute one single market for foreign exchange dealings. Consequently the price of one currency in terms of another (the rate of exchange) will tend to be the same everywhere. If this equality is temporarily destroyed, arbitrage will re-establish it.

In these circumstances, therefore, there are three rates of exchange to be explained. These are: (1) a rate for the Canadian dollar against the pound sterling; (2) a rate between the American dollar and the pound sterling; (3) a rate between the Canadian and the American dollar. To simplify the analysis still further, we shall assume for the time being that the pound sterling and the American dollar are themselves interchangeable at a fixed rate of exchange.[1] By so doing it is possible to speak simply of the demand for foreign exchange, or the supply of foreign exchange, or the rate of exchange in Canada, without the necessity of indicating what particular rate of exchange is in question. That is, both sterling and United States funds together constitute a pool of foreign exchange out of which Canada's external obligations can be met. Surplus supplies of sterling may be (and, in fact, are) used by Canada to meet a deficiency of United States funds, and *vice versa.* Hence it follows that a shortage of foreign exchange in Canada will result in an equal rise in the value of both the pound and the United States dollar. Similarly, where a surplus of one foreign currency or the other develops in Canada, the price of both the pound and the United States dollar will fall equally in terms of Canadian dollars. That is, the immediate determinant of the rate (or rates) of exchange in Canada is the impact of the total demand for foreign exchange upon the total supply. If as a result of heavy imports the demand in Canada for foreign exchange at the current rates is in excess of the supply on offer, then the rates of exchange will rise. More Canadian money will have to be paid for pounds sterling, francs, United States dollars and so on. If, for some reason, the offers of foreign exchange for Canadian dollars exceed the demand, the price of foreign exchange will fall. The point is that these variations in the exchange rate serve the same purpose as any other price-change; they operate so as to preserve an equality between the amounts offered and the amounts demanded. They tend to stimulate or to discourage various types of international transaction in the general direction required to restore equilibrium between total payments and receipts.

SHORT-RUN ADJUSTMENTS

The mechanism of international settlements operates so as to keep international accounts in balance from day to day. However, it is necessary to distinguish between those adjustments which take place immediately and those which take time before they are fully effective. For small and temporary disturbances in the international accounts (*e.g., a seasonal increase in imports*) *the short-run adjustment* may be all that matters. When more permanent or more severe transformations are taking place, the immediate adjustment may take one form, while the ultimate adjustments are entirely different. We shall refer to this distinction later when dealing with concrete examples, but this section will be concerned mainly with adjustments which begin to operate as soon as the Canadian dollar falls.

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[1] This assumption has not corresponded with the facts since 1931. However, the more intricate question of what happens to the Canadian rates when the sterling-dollar (U.S.) rate is itself altered will be examined later.

Imagine now that the hitherto stable equilibrium of Canada's international accounts has been suddenly disrupted by a substantial fall in, say, lumber and newsprint exports. As a result the pound sterling and the United States dollar have risen in price or "gone to a premium." The possible short- and long-run adjustments to the international accounts may be considered by examining the effect of the premium upon the principal types of transaction separately.

(*a*) *Commodity Exports.* Probably some other Canadian exports will be stimulated since exporters generally can now afford to quote a lower price in foreign currency to their customers abroad. To the Canadian exporter the reduction in price will be offset by the premium received when the foreign exchange is converted into dollars. Looking at this matter from another point of view we may say that foreign purchasers will be encouraged to take advantage of the temporary cheapness of the Canadian dollar to buy more than hitherto or to buy now instead of later. If, therefore, some producers (other than the forest industries) can produce more for export, or divert sales from the domestic to foreign markets, there will be an inducement to do so. In this connection it is probable that the exchange depreciation will lead to a rise in the domestic price of some export goods. If the domestic consumption of such goods is large (e.g., livestock) and if the domestic demand is very elastic, the higher price may restrict domestic sales, thereby releasing more of the commodities concerned for export markets. All these developments will tend to increase the supply of foreign exchange, thereby preventing foreign exchange rates from rising. In other words, the depreciation of the Canadian dollar will tend to be self-limiting.

Naturally *no substantial increase in particular exports can be* achieved immediately unless inventories are large, or stocks on hand are above normal. If some of the export trades are working below capacity, however, some increase in production is possible, given time. But if the existing capacity of particular export industries is already fully utilized, any increase in export sales—except that which is achieved at the expense of domestic consumption—will require an expansion of capacity and perhaps some diversion of productive resources from other employments. For example, once the crops have been planted it is obvious that the depreciation of the dollar (which will be reflected in a higher Canadian price for wheat) cannot lead to any expansion of wheat production during the current crop year. And so too with other commodities affected by a short-run inelasticity of supply. Indeed in the case of wheat—and this will be true in the short run of many of the foodstuffs and raw materials typical of Canada's export trade—the principal result of the depreciation of the dollar will be an increase in the domestic price.[2] If, however, the premium on foreign exchange (and, hence, the higher price level) is long maintained, the inducements to produce more for export (or to divert sales from the domestic to the foreign market) will become stronger. In so far as this is the case, the downward pressure on the dollar will be lessened.

(*b*) *Commodity Imports.* Ordinarily any depreciation of the Canadian dollar will raise the price of imports, in terms of Canadian money. Foreign goods will be less attractive in price than similar domestic goods, and imports will therefore tend to fall.[3] If there is no domestic production of the commodities concerned, the higher foreign price will promote some reduction in domestic demand, depending on the elasticity of that demand. Again, if the premium on foreign exchange is believed to be temporary, importers will be induced to postpone their foreign purchases until the premium has been reduced or disappeared. Or they may delay the actual transfer of funds in payment of goods already imported. All such decisions will contribute towards the restoration of a new international balance, thereby reducing the pressure on the Canadian dollar.

(*c*) *Gold Exports.* Considering gold solely as a commodity (i.e., excluding monetary reserves) the effect of the exchange premium on output and exports is similar to the case of other commodities. The premium results in a rise in the Canadian proceeds from the sale of gold and, if this endures, to an increase in production, exactly analogous to the effects of the increase in the world price which occurred in 1933. Of course the probable increase in production (and exports) will depend on the behaviour of costs in the industry; the sharper the rise in mining costs the smaller the increase in production. The immediate consequence of the depreciation of the dollar may be to speed up the export of the current output, particularly if it is believed that the depreciation is only temporary.

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[2] Because the world price is unlikely to be influenced by any possible increase in the Canadian supply; the Canadian price, therefore, is simply the world price multiplied by the rate of exchange. Indeed this is the chief argument in favour of a policy of deliberate exchange depreciation on those occasions when the world prices of Canada's exports are unduly low, as the representatives of the Western Provinces pointed out in the early thirties.

[3] An exception must be made in the case where Canada constitutes the sole market of the foreign supplier; in this case the latter may reduce his price in order to retain his market in Canada. This reaction is more probable in the short run, before alternative markets can be found.

(*d*) *Invisible International Transactions.* In the case of the other international transactions on current account, the depreciation of the Canadian dollar will induce certain adjustments of a similar character. Thus a cheaper Canadian dollar will reduce the expense of a vacation in Canada to the American tourist and, other factors remaining unchanged, will enlarge the tourist income. At the same time it will reduce the amount of Canadian travel abroad.[4] It is doubtful, however, whether small variations in the exchange rate will affect this situation.

With regard to the international remittance and receipt of interest and dividend payments it is clear that the *direct* consequences of a depreciation of the Canadian dollar by way of the restoration of an international balance are of a strictly short-run character.[5] Thus interest payments, which bulk large in the debit side of the account, must be made at stipulated times—say at six-month intervals. The demand for foreign exchange for the servicing of debt is therefore insensitive to changes in the rate, except for shorter periods. But since Canadian debtors ordinarily accumulate funds at home for some time previous to the due date, they will tend to make the actual transfer into foreign exchange at the most opportune moment, that is, when the exchange rate is most favourable or at least unfavourable. If, therefore, the depreciation of the dollar is believed to be temporary the transfer will be postponed, thereby relieving the pressure on the dollar. In this connection it is important to observe that the external interest costs on Dominion Government obligations ($31 millions in 1937) constitute about one-fifth of the total international bill for interest, and that the management of the government debt is now entrusted to the Bank of Canada. This means that the central bank is in control of a species of exchange

[4] Unless American hotels, anxious to preserve their Canadian patronage, offer to take their Canadian dollars at par, as some are doing today.

[5] In the long run the *indirect* consequences of the situation which produced the depreciation of the currency are more important.

stabilization fund capable of being used to smooth out temporary ups and downs of the Canadian dollar. Should the downward trend persist, of course, this "fund" would be of no avail. Similar considerations will apply in the case of dividend cheques sent by Canadian companies to their foreign stockholders. When dividends are expressed in Canadian dollars, as is usually the case, the depreciation of the dollar may induce the foreign stockholder to postpone the sale of such Canadian funds until the rate is less unfavourable. It should be added that the actual transfer of incoming payments by way of interest and dividend on Canadian investments abroad will be governed by the same principles, and, in a smaller way, may assist in smoothing out the fluctuations in the value of the Canadian dollar.

(*e*) *International Capital Transactions* Capital movements play a very significant role in the mechanism of international adjustment both in the short run and over longer periods. Indeed in the very short run the possibility of continuously stable exchanges depends almost entirely upon the behaviour of capital movements For, as we have said earlier, it would be astonishing if, day by day, the total demand for foreign exchange should exactly equal the total supply without the operation of some equilibrating mechanism. In the case of the Canadian exchanges there are three groups of capital transactions which assume this function. The first is the movement of short-term balances. For example, it will happen from time to time that particular banks will find, towards the end of the day, that they have not been able to dispose at the current rates of exchange of all the foreign balances they have purchased. If they feel confident that in a short while the situation will be reversed—that the demand for exchange will exceed the supply—they may be willing to allow their foreign assets to accumulate temporarily. Such action would prevent the Canadian dollar from rising in value. Were the banks to refuse to "take a position" in foreign exchange, the attempt to dispose of the excess would send Canadian money to a premium. Conversely, if the dollar were under selling pressure, the decision of foreign banks to allow their Canadian balances to accumulate would help to prevent the dollar from falling in value. Needless to say the anticipation of an early recovery in the value of the dollar would induce speculation in exchange, which would assist in minimizing fluctuations. We may conclude, therefore, that the accumulation or the drawing down of foreign balances may operate so as to narrow the short-term fluctuations of the dollar. A movement of this kind occurred in 1929 when the reversal of the commodity balance seriously dislocated the international accounts of Canada. The Canadian dollar at one time fell to a discount of 3 per cent in New York, but the average degree of depreciation was much smaller. Part of the explanation for the absence of any severe decline lies in the fact that the net foreign assets of the chartered banks were reduced by $88 millions during the year. The effect on the exchanges of such capital movements is therefore similar to that of monetary gold movements under the gold standard. However it must be added that in a period of uncertainty short-term capital is just as likely to move in the other direction, thereby aggravating the existing depreciation of the currency.

The remittance and receipt of branch plant funds may also operate to reduce the fluctuations in the value of the dollar. These transfers have been shown to be important in the Canadian accounts and while the direction of the net flow is also governed by other considerations, the actual time of transfer frequently depends on the state of the exchanges. The repayment of working capital to the parent concern will be discouraged by a premium on foreign exchange; indeed at such a time the branch plant will have that additional inducement to borrow from the parent.[6] Fortunately for the stability of the Canadian dollar the outward movement of branch plant funds also tends to coincide with periods of favourable commodity exports, when the dollar may be presumed to be strong. The connection is both direct and indirect; direct because many of these plants are heavily engaged in the export trade (by virtue of imperial preferences); indirect, because their profits vary with the swings of national income, which is itself geared to the export industries of Canada.

Another constituent of the self-adjusting mechanism is the international trade in portfolio investments, particularly in inter-listed stocks.[7] If the Canadian dollar should depreciate slightly, it is clear that foreign investors will be induced to purchase (and Canadian investors to sell) international securities presently held in Canada.

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[6] "The interests of the owners of direct investments are more like those of a resident of the debtor country than are the interests of a foreign bondholder whose returns are payable in the currency of the creditor country concerned. For this reason the owner of direct investments often has a different attitude with regard to the external value of the currency of the debtor country, being so situated that funds may usually be employed there if circumstances are not favourable to their transfer." (Dominion Bureau of Statistics, *The Canadian Balance of International Payments*, Ottawa, 1939, p. 139.)

[7] See pp. 304-5.

That is, securities, like commodities, will enjoy an export premium. This will be especially true of such securities as the optional-payment-bonds issued by various Canadian authorities and corporations, where the purchaser incurs no direct exchange risk, and where the credit of the borrower is beyond reproach. But it is also true of strong common stocks. Thus if International Nickel is priced at $50 in Toronto and New York, the Canadian dollar being at par, it would follow that the subsequent depreciation of the dollar by (say) 2 per cent would present foreign investors with a chance to acquire "Nickel" in Canada for only $49 in United States funds. Such arbitrage would ultimately leave the price in Canada higher than the New York price by an amount equal to the exchange differential, but until this happens support for the dollar will continue. In this way the exchange depreciation will itself be reduced or retarded. Thus in the fall of 1929 the depreciation of the Canadian dollar induced a heavy selling of American securities on the part of Canadian investors.[8] And when the Canadian dollar is strong the reverse procedure may operate. During the period when sterling was at a discount in Canada (1931-2) British investors proceeded to sell Canadian securities back into this country. After the subsequent recovery of sterling in 1933 this tendency was reversed; Canadian issues were bought in London.

Again it is necessary to qualify the argument by pointing out that this type of international capital movement, like the flow of short-term funds, may sometimes aggravate the weakness of the Canadian dollar. If the distant prospect for Canadian investments is gloomy, if the exchange depreciation is believed likely to continue, or if confidence in the borrowers is reduced, exchange depreciation may fail to induce any purchase of Canadian securities.[9] On the contrary it may be the signal for a heavy selling of securities back into Canada, thereby increasing the pressure on the dollar. But for small and occasional fluctuations in the exchange rate, the trade in international securities may and frequently does operate to restore a stable equilibrium.

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[8] Doubtless the stock market slump, the closing of margin accounts, and the need for liquid funds were of greater significance in this connection!

[9] "In the case of New York, the greatest yield differential . . was in 1932. At that time, however, Canadian issues, in spite of their theoretical attractiveness, were not being bought by American investors in any large volume. . . . In the face of dwindling external trade and an internal situation anything but reassuring, the future of the dollar appeared uncertain; the ability of Canadian borrowers to pay the exchange premium was being called into question." (W. T. G. Hackett, "Canada's Optional Payment Bonds," *Canadian Journal of Economics and Political Science*, May, 1935.)

The other kinds of capital transaction typical of Canada's balance cannot be relied upon to act in this compensatory manner. The flotation of new issues abroad tends, of itself, to augment the supplies of foreign exchange and hence to strengthen the Canadian dollar. Further, there would be every inducement for potential borrowers (e.g., governments) to try to borrow in external financial centres whenever the dollar is weak, since there may then be the double inducement of lower interest rates[10] and the premium on foreign funds. However, the weakness of the dollar may be regarded by foreign investors as indicative of a general weak economic position in Canada, so that foreign borrowing may be difficult (and then only at high rates) or impossible. During 1929 and 1930, however, Canadian *governments were able to float new* issues in New York in very substantial amounts; this undoubtedly cushioned the shock on the exchanges caused by the slump in commodity exports, and prevented any sharp depreciation of the dollar. There are times, of course, when the government of a country or its financial agent may borrow abroad—as the Bank of England borrowed in New York during the last war, or as it borrowed from the Bank of France and the Federal Reserve Bank of New York in September, 1931—for the deliberate purpose of supporting or "pegging" the exchange rates. But this practice is not common in peace and no longer necessary in time of war.

The other important item in the international capital account is the retirement of foreign debt. This constitutes a drain on the available foreign exchange resources. If the exchange position were already weak there would be every inducement to postpone such retirements as were postponable, or to refund by a new external issue, if that were reasonably possible. Conversely when the dollar is strong securities held abroad will tend to be repatriated when they mature, as they have been these last five or six years.

THE TRANSFER PROBLEM OVER THE LONG RUN

So far the argument has been concerned with the mechanism of adjustment applicable to small and temporary disturbances to Canada's international accounts. But assume a large and continuing dislocation—a series of crop failures, a large decrease in the foreign demand for Canadian exports, a continuous withdrawal of foreign capital—and more deep-rooted adjustments will be called for. Naturally the exchange value of the dollar will fall to a level at which international payments and receipts are balanced. How far it will fall depends on the extent to which domestic adjustments in prices, incomes, and production proceed in the direction appropriate to a new and stable international equilibrium. If, for example, Canadian commodity prices generally (and, hence, money incomes generally) should fall, it is possible that imports will decline and exports be stimulated, even without any marked increase in the price of foreign exchange. And in practice such domestic repercussions do operate so as to restore a balance in the international accounts. Some of these adjustments are partly "automatic"; others depend upon the policies of the government and the central bank.

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[10] Periods of depreciation tend to coincide with the initial stages of an export slump and hence with a hardening of domestic money rates.

(*a*) *Contraction of Active Purchasing Power.* Assume that exports have fallen severely so that there is an immediate fall in the incomes of the export industries. That means there is a smaller amount of *active* purchasing power than heretofore. For example, it is possible that the deficiency of foreign exchange in Canada has been met by the influx of short-term funds into the banks, or by the purchase by foreigners of Canadian securities. In both cases active deposits are exchanged for passive or "investment" deposits. The total amount of purchasing power may be unchanged, but the export industries—the potential spenders—have less; the savers have more. With less spending, therefore, the demand for imports, as well as for domestic goods, will be reduced.[11] That is, imports decline directly. At the same time home goods will fall in price and are therefore likely to be bought in preference to imports, or to be exported in greater quantities. Moreover, depressed conditions in the export industries will spread outwards to the domestic producers of consumers' and capital goods, so that there will result some secondary reduction in incomes, commodity prices, and security prices. This will also operate to restore a balance in the international accounts.[12]

(*b*) *The Decline of Prices.* Some economists have argued that international equilibrium may be restored without the necessity for any reduction of prices in the country affected; the reduction in purchasing power (that is, in incomes) may be sufficient to reduce the volume of imports and other debit transactions.[13] In the case chosen for illustration here, however, the probability of a fall in prices in general is very strong. We began by assuming a fall in the world prices of export goods, which constitute a large portion of total Canadian output. Unless the Canadian dollar falls in the same ratio, the domestic prices of export goods must fall somewhat. This depressive tendency will inevitably spread to domestic goods, even if we neglect the probable deflationary effect of the reduction in incomes. However, the sharper the fall in domestic prices (and costs) the sooner international equilibrium will be re-established, and the less will be the depreciation of the dollar.

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[11] Note that a decline in purchases of domestic manufactures will mean (for Canada particularly) a decline in the importation of raw materials—cotton, wool, iron and steel, rubber, etc.

[12] The earlier analysis of the probable results of exchange depreciation upon Canada's international accounts may be applied, with some exceptions, to this case of a reduced level of domestic incomes and prices. Thus the commodity and tourist trade, dividend payments, and the like will be altered in the direction required for the re-establishment of a stable balance. The probable exception concerns certain of the international capital movements.

(*c*) *A Contractionist Monetary Policy.* No mention has been made so far of the possibility of a reduction in the volume of expenditures which may be induced by a contraction of bank credit. It is possible that the total volume of bank deposits may be unchanged by the slump in exports, although their composition is certain to be affected. However, if the deficiency of foreign exchange is met by the drawing down of the external assets of the banks (for example) the latter may regard this weakening of their liquid position as the justification for a contraction of bank credit. That is, they may sell securities or reduce the volume of loans and discounts. This tendency will be reinforced by the reduction in the demand for bank accommodation. The effect of these measures will be to promote a further reduction in expenditures and to accentuate the general downward drift of prices and incomes. It is also possible for the central bank to intervene actively by reducing the size of cash reserves, and so, indirectly, speeding up the contractionist process.[14]

Anything which impedes or delays the reduction of domestic prices and costs will to that extent prolong the period of adjustment. In this connection, such factors as monopoly price arrangements and rigid debt charges were an important obstacle to the re-establishment of internal and international equilibrium during the last depression. It is also clear that if the government and the central bank are anxious to minimize the depreciation of the dollar they cannot at the same time attempt to offset the effect of the slump in exports by a policy of credit expansion (e.g., public works financed by bank loans); the objectives are mutually incompatible. Needless to say this dilemma is more responsible than anything else for the world-wide trend towards exchange depreciation and exchange control, import quotas and the like in recent years.

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[13] B. Ohlin, *Interregional and International Trade* (Cambridge, Mass., 1935).

[14] A central bank which is anxious to avoid any exchange depreciation must anticipate and forestall any dislocation of the international accounts by the earlier adoption of a contractionist policy.

The conclusion from this part of the argument, then, is that the ultimate solution of the "transfer problem" will be found not only in the alteration of the rate of exchange, but in the alteration of the structure of prices, incomes, and production at home. However, by contrast with the case of the gold standard (under which exchange fluctuations are strictly limited), a system of flexible exchanges does not thrust the burden of adjustment solely upon the internal price structure.

In either case, it is important to observe that the re-establishment of a stable international balance for Canada will be much less unpleasant if foreign countries "co-operate" and if the economic situation abroad is good. The theory of international settlements is usually based upon the assumption that adjustments "abroad" will take the opposite character to those which are necessary in the disturbed or dislocated economy. That is, the United States and the United Kingdom, enjoying a "favourable" balance (the obverse of Canada's deficit), are assumed to undergo an expansion of credit leading to higher prices, thereby facilitating the purchase of increased imports from Canada, and so on. To this argument there are, however, certain qualifications. First, the benefits of a favourable balance with Canada tend to be diffused over many other countries, some of them much larger than Canada, so that the effects on any one of them may be small. Second, other countries may be unwilling to accept an increase in imports, or unprepared to allow a reduction of exports to pass without retaliation. The dilemma presented to the payers of reparations or war debts by the imposition of high American tariffs is a case in point. Third—and this is the most important—if other countries are also in the throes of depression, the transfer problem of the debtor countries may be abnormally severe. If world prices are falling, domestic prices must fall relatively more; if foreign markets are shrinking, the difficulty of expanding exports is greater; if profits and savings in the creditor countries are shrinking, there will be less money for investment in the debtor countries. The familiar text-book account of the manner in which a single country—affected by a dislocation in its international balance—may establish a new equilibrium must be modified to meet this not unusual case.

CANADA'S THREE-CORNERED EXCHANGE RELATIONSHIP

So far we have considered only those dislocations in the Canadian balance arising from circumstances affecting mainly Canada itself. In such a case all rates of exchange in Canada depend upon Canada's international position vis-a-vis the rest of the world. For all practical purposes, that means that the price in Canada of United States funds and sterling, *assuming that these two are fixed in relation to one another,* is determined by the total position of the Canadian balance. The fact that the normal situation involves a surplus of sterling, arising from the trade with the Commonwealth, roughly equal to the deficit of United States funds is irrelevant. The various external currencies may be regarded as interchangeable.[15]

But suppose that the pound sterling falls in New York because of a weakening of the British international economic position generally, the Canadian balance being assumed for the moment to be unchanged. What is likely to happen to the Canadian dollar? Will it go to a premium in terms of sterling, in the same manner and to the same degree as the American dollar? If it does, the Canadian-American rate will remain unchanged. Or will the Canadian dollar remain stable in terms of sterling? If it does, it will have to go to a discount in New York equal to the discount on sterling; arbitrage makes this inevitable. Or will the Canadian dollar find some intermediate position?

On theoretical grounds one would certainly expect the Canadian dollar to be "sympathetic" to the depreciation of sterling. This conclusion follows from the fact that a large proportion (approximately one-third) of Canada's total trade, etc., is done with the United Kingdom, being exceeded only by the Canada-United States share. If, therefore, sterling were to go to the same discount in Canada as it is assumed to have done in New York, it follows that Canada's trade with sterling countries would be disturbed adversely. The application of this statement to the case of exports is as follows. First, the discount on sterling would tend to make some Canadian goods more costly in the United Kingdom. This would certainly be true of those exports which are not narrowly competitive; that is, for which Canadian producers have alternative markets either in Canada itself or elsewhere abroad. In such cases, Canadian exports would fall. Unfortunately for the simplicity of this argument, however, the more typical Canadian exports (say, wheat, lumber, or bacon) meet sharp competition in the British market. Hence, Canadian exporters will be compelled to continue selling there at the prices ruling in the United Kingdom, despite the reduction in the Canadian value of sterling, in order to retain what is their customary and largest market. Consequently the depreciation of sterling would have the effect of reducing the proceeds (in Canadian or American dollars) of the export trade with the United Kingdom,[10] even though the quantity of exports might remain unchanged for a considerable time. In other words, Canada's surpluses of sterling—ordinarily sold against dollars in New York—would command a smaller amount of dollar balances. This factor alone would tend to depress the Canadian dollar in New York, and hence in London.

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[15] See p. 290.

Turning now to consider the effect of the discount on sterling on Canada's imports from the United Kingdom, it is equally probable that these would be more competitive with domestic goods and would tend to rise. For this additional reason the balance of commodity trade between Canada and the United Kingdom (plus the rest of the sterling area) would be less favourable to Canada. In time, therefore, the discount on sterling in Canada might be expected to diminish; this would be matched by a fall of the Canadian dollar in New York.

Suppose, however, that the dollar had fallen in New York *pari-passu* with the fall of sterling in that centre. Given the very heavy volume of Canadian-American trade it is equally clear that the Canadian trade balance with the United States would be favourably affected. Before long exports would increase and imports would be curtailed by virtue of the discount on the Canadian dollar; as a result the discount in New York would be reduced; and the Canadian dollar would rise also in terms of sterling. It is, therefore, established, on *a priori* grounds, that through the resultant effects on commodity trade any depreciation of sterling in New York is likely in time to carry the Canadian dollar down with it, but unlikely to carry it down as far. The Canadian dollar will come to rest at some intermediate point between sterling and the United States dollar.

It is perhaps not so obvious why the Canadian dollar should immediately reflect the weakness of sterling, as is usually the case. The explanation of this is probably two-fold. First, since it is expected that the Canadian dollar will ultimately decline in sympathy with sterling, for the reasons given, it is likely that current quotations would reflect future expectations. That is, speculative sales of the Canadian dollar will speed up the actual depreciation. Secondly, there is another type of international transaction—the trade in outstanding securities—which is most responsive to variations in the three-cornered exchange rate position. Established channels of commodity trade are not quickly affected by changes in relative exchange rates; the trade in securities, however, is much more responsive. Thus, as in the illustration used above, where sterling was first presumed to fall equally in Canada and New York, there would be a disposition in Canada to buy back Canadian and American securities held in London or, what is the same thing, a disposition for British holders to sell off securities in the Canadian markets. At the same time there might be a tendency for American investors to sell Canadian securities back to Canada, either for the purpose of re-investing in British securities (which would now possess an exchange export bounty) or as a speculation against the anticipated future fall of the Canadian dollar. This apparently is what happened in September, 1931, when Britain was driven off gold.

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[10] Besides depressing the Canadian prices of such commodities, including, of course, that portion of the output which is sold at home.

On *a priori* grounds, therefore, there is every reason why the Canadian dollar should decline in New York as soon as sterling takes a substantial drop, with every probability that the final position will be at some intermediate point. And in view of the greater volume of Canadian-American commodity and service transactions the Canadian dollar might be expected to end up nearer to the American dollar than to sterling. Experience seems to support this theoretical reasoning. When the pound slumped heavily in September, 1931, the value of the Canadian dollar in New York declined immediately by about half as much, and occupied this intermediate position, approximately, for almost two years, oscillating with the variations in the New York-London rate. During 1932, for example, the average of daily quotations for the pound in New York was $3.50, a depreciation of 26 per cent from the former parity. The average discount on the Canadian dollar in New York was about 12 per cent, or a little less than half as great.

A study of the relative movements of sterling and the Canadian dollar day by day during the two years following September, 1931, showed this tendency for the dollar to fall by about half as much as the decline in sterling.[17] But it was also indicated that when sterling was unduly depressed (i.e., below $4.00) the Canadian dollar did not always behave according to the formula, and the suggestion was made that speculative influences may have dominated the situation. When account is taken of the extreme volume—as well as the volatility—of Canadian-American capital transactions, and of the marked autonomous changes taking place in Canada's trade and tourist position in that year, it would seem useless to search for any precise equilibrium position for the dollar with the aid only of deductive reasoning. However, abstracting from the factor of investment sentiment, a position roughly midway between sterling and the American dollar can be expected so long as the predominant share of the trade in goods and services is fairly evenly divided between those two countries.[18] The analogy with Canadian politics, manners, and culture seems apt.

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[17] G. E. Jackson, "Sterling and the Canadian Dollar" (*Bank of Nova Scotia Monthly Review*, Dec., 1933).

In more recent years the Canadian dollar has shown more independence of sterling. Thus during and after the Munich episode the transfer of funds from London to New York had the effect of driving down the value of sterling from $4.96 (monthly average, June, 1938) to $4.66 (December)—a fall of 6 per cent. The Canadian dollar, on the other hand, never went below one per cent discount in 1938 and averaged only one-half of one per cent. Clearly the strongly favourable Canadian trade balance was sufficient to offset the depressive effects of the depreciation of sterling on the Canadian dollar. Moreover, by contrast with Great Britain, where heavy re-armament expenditures were being financed increasingly by bank credit, Canada's financial position seemed relatively strong. Naturally this was reflected in the flow of capital into Canada and hence in the exchange rates.

And so we come to the outbreak of war. In a short time the pound in New York fell sharply from $4.68 to $3.96, a decline of 15 per cent. The Canadian dollar also fell to a discount of 10 per cent. At these levels foreign exchange control was introduced. This does not mean that the considerations applicable to the determination of exchange rates as discussed herein have ceased to apply. On the contrary, for all international transactions other than capital movements the policy concerning official exchange rates will doubtless take into account their probable effects on Canada's international accounts and on domestic price levels and production. For this reason circumstances may require occasional changes in the official rates. But it must be added that the preservation of an international balance can now be achieved by more direct control over the flow of international funds, and over those domestic economic circumstances out of which the foreign exchange problem arises

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[18] The argument holds true also when sterling rises in relation to the United States dollar. The Canadian dollar should also rise in New York, by a smaller amount of course. Incidentally the necessity for some such compromise between the conflicting pulls of the pound sterling and the United States dollar explains why the Canadian currency cannot be linked with either currency *bloc*.

CHAPTER XVI

Canada's International Accounts and the Foreign Exchanges*

J. F. PARKINSON

THE present concern with the problem of foreign exchange can doubtless be explained by the natural curiosity which exists with respect to the operations of the Foreign Exchange Control Board, and by the growth of speculations concerning the probable effect of the war on Canada's international accounts. The object of this paper, however, is to analyse the character of Canada's international accounts in more normal times, and to indicate how the mechanism of international adjustment operates in the absence of control. Needless to say, a study of the quasi-automatic system as it works in time of peace is not irrelevant to the problems of control which must arise in war, since both mechanisms are concerned with the same fundamental task—the preservation of some kind of balance in Canada's international accounts.

The foreign exchange problem arises from the simple fact that the currency of one country does not command general acceptance outside its own borders. The Canadian dollar is a purely Canadian monetary unit with the conditions of its issuance (and, indirectly, its value) determined by Canadian authorities. It is not used for the settlement of debts or the payment of wages outside Canada, nor are foreign currencies (or bank deposits) freely accepted in payment of obligations incurred by one Canadian with another. It follows that each international transaction must give rise to a foreign exchange operation. There is no need at this point to describe the working of the foreign exchange market. It is sufficient here to assert that the rate of exchange (the price paid or received in Canadian dollars for foreign currencies) depends, like any other price, on the impact of the demand upon the supply.

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*Reprinted from *Canadian Investment and Foreign Exchange Problems*, ed. J. F. Parkinson (University of Toronto Press, 1940).

The heart of the foreign exchange problem is therefore to be found in a study of Canada's total international accounts. On the assumption that the London-New York rate remains unchanged, the explanation of any alteration in the price of London or New York funds in Canada will be found in changes in the demand for (or the supply of) foreign exchange generally. The price of sterling (as well as New York funds) may rise in Canada as a result of a heavy demand in Canada for New York funds. In this particular case, foreign funds may be regarded as interchangeable, whatever the currency in which they are expressed.

The statement of Canada's international accounts,[1] as shown in Table I, records the international transactions of Canada for the years in question, expressed in Canadian dollars. For the reasons given above, this statement does not attempt to record the flow of transactions with each country separately; all international transactions in the various categories are lumped together.

It will be observed that the statement for each year records three figures against each type of international transaction. In this context, credit items represent all those transactions which give rise to a supply of foreign exchange (e.g., the export of commodities from Canada or the receipt of dividends from abroad).[2] Debit transactions are all those which involve a demand for foreign exchange or the remittance of funds from Canada across the international boundaries. As such they give rise to a sale of Canadian dollars against foreign exchange. Again, commodity imports into Canada represent the largest group of transactions of this kind but a glance at Table I will reveal that there are many other important debit transactions. The net credit or debit balance shown against each item in the international accounts is self-explanatory. Thus in the year 1933 the surplus of commodity exports over imports yielded a net credit of $147 millions. The corresponding surplus

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[1] This term is used in place of the more customary phrase "the balance of international payments" since it avoids any suggestion of the balance sheet. In accounting terms the statement of international accounts is more comparable to a statement of receipts and payments. Professor Knox suggests that the closest analogy with which the public is familiar is the customer's current account at a chartered bank. See F. A. Knox, "International Accounts" (*Canadian Chartered Accountant*, Sept, 1936).

[2] The credit column is also called the export column, since the export of goods and services constitutes the chief source of foreign exchange. This term, however, is not without ambiguity since the "export of capital"—that is, the remittance of funds for investment abroad—involves a debit (or import) transaction. The confusion would disappear if we spoke here of the import of securities, rather than of the export of capital.

TABLE I

Canada's International Accounts

(Estimates of the Dominion Bureau of Statistics)
(*In $ millions*)

	1933			1937		
A. Current account of goods, gold, and services	Credits (exports)	Debits (imports)	Net credit or debit balance	Credits (exports)	Debits (imports)	Net credit or debit balance
1. Commodity trade	532.3	385.7	+146.6	1009.7	796.4	+213.3
2. Gold exports and imports	87.8		+ 87.8	145.1	0.1	+145.0
3. Freight receipts and payments	43.7	65.8	− 22.1	111.7	137.2	− 25.5
4. Tourist expenditures	117.1	50.9	+ 66.2	294.7	124.4	+170.3
5. Interest and dividend payments and receipts	39.0	263.3	−224.3	78.8	325.0	−246.2
6. Miscellaneous	24.2	56.5	− 31.3	25.2	63.9	− 38.7
7. Total	844.1	822.5	+ 21.6	1665.2	1447.0	+218.2
8. Balancing item=difference betwen credits and debits		21.6			218.2	
B. Capital account						
1. New Canadian issues sold outside of Canada (net value)	133.9		+133.9	89.5		+ 89.5
2. Retirements of Canadian securities owned abroad		165.9	−165.9		177.9	−177.9
3. Purchase and sale of outstanding securities	288.7	237.7	+ 51.0	506.6	511.4	− 4.8
4. Net capital transactions of international direct investments		74.3	− 74.3		82.6	− 82.6
5. Insurance transactions, n.o.p.	20.0	21.0	− 1.0	24.0	34.0	− 10.0
6. Change in net assets of Canadian banks outside of Canada	23.9		+ 23.9		13.0	− 13.0
7. Total	466.5	498.9	− 32.4	620.1	818.9	−198.8
8. Balance item=Direct estimate of net capital movement	32.4			198.8		

for 1937 had risen to $213 millions. These figures constitute what is usually described as a favourable balance of trade.[3]

What is of most significance for our purpose, however, is the total flow of international transactions, and the manner in which the total international payments and receipts (debits and credits) are kept in balance. For the obvious fact about the international accounts is that, taken together, the debits and the credits must be equal. That is, if an accurate record is obtained of all the international transactions with which Canada is concerned in a given period, the total payments and receipts will be found to be equal.[4] That conclusion follows from the truism that for every purchase of foreign exchange with dollars there must have been an equal sale of foreign exchange for dollars. A record of those transactions actually consummated would therefore provide, indirectly, an account of Canada's international transactions.[5]

The annual estimate of Canada's international accounts made by the Dominion Bureau of Statistics is, of course, a story told after the event. That is, it records only those transactions actually made; it gives no indication of those marginal transactions which would have been made if circumstances had been different. How the mechanism of adjustment managed to cope with the fluctuating conditions of international demand and supply in the short run can only be inferred. Nevertheless, a comparative study of a series of annual statements will show the characteristics of the Canadian balance, what types of dislocation or disturbance are typical of Canada's international economic relations, and what form of adjustment is observable over the long run. For the sake of convenience the principal items in the Canadian balance are considered separately; their mutual inter-dependence should soon be apparent.

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[3] However, as economists have tried to emphasize since the time of Adam Smith (without too much success, it may be added) the use of the terms "favourable" and "unfavourable"—when studied separately from their context in the international accounts—merely serves to darken counsel.

[4] Any disparity must be set down to errors and omissions. Since in practice the magnitude of each item must be estimated on the basis of incomplete material, errors and omissions are inevitable. The disparity for the years 1933 and 1937 was between $10 and $11 millions in each case. Of course it is possible that even greater errors have been made with respect to individual items, since two errors of equal but opposite character would cancel out in the final reckoning. For a complete study of the methods of estimate of Canada's international accounts, as well as for a more detailed description of the constituent elements, see *The Canadian Balance of International Payments: A Study of Methods and Results* (Ottawa, King's Printer, 1939). This paper has drawn heavily upon this analysis made by the Dominion Bureau of Statistics.

[5] The special case where the proceeds of Canadian exports are left abroad, and where there is therefore no apparent foreign exchange transaction, is met by the entry, on the other (debit) side of the account, of the corresponding outward movement of short-term capital, which is implied in this case.

Commodity Trade. It is hardly necessary to point out that exports bear an unusually heavy ratio to the total production of goods in Canada—frequently exceeding one-third of the total output. The resultant dependence of Canadian commodity prices and, indeed, of the national income itself upon the changing fortunes of the export industries is too familiar a matter to call for any elaboration.[6]

The commodity trade in recent years normally shows a credit balance; occasionally the excess of exports over imports is small (as in 1933) or negative (as in 1929 and 1930) but in the last five years the export surplus has varied between $148 millions and $322 millions (see Table II). The existence of a regular surplus of exports indicates that Canada has now reached a stage in its economic development appropriate to a "mature debtor" country. In contrast with the situation in the decade before the last war, when Canada was consistently adding to her foreign debt, the recent export surpluses arising from the commodity (and tourist) trade have been usually sufficient to permit some repayment of foreign debt, after meeting the net interest charges payable to non-resident holders of Canadian debt.

In considering the problem of the foreign exchanges, however, the most significant feature of Canada's international accounts is the marked fluctuations to which the commodity export trade is exposed. The reason for this lies in the character of Canadian exports. On the average about four-fifths of the total exports are accounted for by the following nine commodity groups: grains and flour; paper, wood pulp and pulpwood; non-ferrous metals; gold; cattle, meat, and fish; furs and skins; lumber; butter and cheese; machinery and vehicles. The demand for most of these products is subject to extreme fluctuations in accordance with the variations in business conditions in Canada's chief markets. Given the comparative inelasticity of world supply therefore, world prices may rise or fall by an unusual degree. To make matters worse, the Canadian grain crop itself varies enormously from year to year.

[6] See H. A. Innis, *Problems of Staple Production in Canada* (Toronto, 1933), and R. B. Bryce, "The Effects on Canada of Industrial Fluctuations in the United States" (*Canadian Journal of Economics and Political Science*, Aug., 1939). Estimates of the national income of Canada may be found in the *Monthly Review of the Bank of Nova Scotia* for Nov. and Dec., 1935, and May, 1937.

As a result the net balance of trade is subject, on occasion, to sharp swings which may put a heavy strain on the mechanism for the settlement of international payments, and hence upon the exchange rates.

The most severe transformations of the commodity balance occurred between 1929 and 1933, during which period exports fell from $1,355 millions (1928) to $532 millions (1933). The depreciation of the Canadian dollar on the foreign exchanges during 1929-31[7] was an indication of the resultant pressure upon the mechanism of international settlements.

There is a natural tendency for imports to follow the same direction as exports. Thus any decline in exports is immediately reflected in a reduction of incomes in the export industries. If this state of affairs lasts long it is bound to result in a decline in the expenditures of these industries, that is, in wage payments, in the purchase of supplies, the payment of dividends, and the rest. This in turn will tend to curtail imports. If—as is likely—the direct consequences of depression in the export industries bring about an indirect (or secondary) reduction in the incomes of the domestic industries, the ability to pay for imported goods will decrease still further. However, in so far as the totality of expenditures by Canadian producers is maintained, despite the decline of exports,[8] then the reduction of imports may not take place for a while. This in fact is what happened in 1929, and it may be argued that as a general rule a reduction of imports into Canada tends to lag behind any reduction of exports, on occasion, by more than one year. However, any dogmatism as to what is likely to happen to imports in a period of declining exports is out of place. The answer also depends on such considerations as the behaviour of the exchange rates, tariff policy, the movement of the business cycle, and the actions of the central bank.

Gold Movements. In view of the peculiar significance of gold movements the export and import of the metal are usually shown separately from the commodity trade in the international accounts. In the case of the non-gold producing countries, gold movements

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[7] An analysis of the adjustments which were in fact necessary to restore a more stable balance in the international accounts is attempted elsewhere (see pp. 274-80). After September, 1931, of course, the position of the dollar on the exchanges was further complicated by Great Britain's abandonment of the gold standard.

[8] As it would be if individuals and corporations drew upon their reserves, or borrowed (at home or abroad).

TABLE II

Canada's International Accounts, 1927-39*

(Net Debits shown as *minus* (—); other items are Net Credits)
(*In $ millions*)

	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939
A. CURRENT ACCOUNT (NET)													
Merchandise	139	131	—131	—122	— 17	74	147	148	193	322	213	182	202
Gold	25	89	74	3	90	73	88	110	117	131	145	157	184
Tourist traffic	130	168	188	179	174	155	66	82	119	141	170	162	165
Interest and dividends	—218	—227	—260	—289	—280	—262	—224	—212	—209	—234	—246	—251	—261
Freight	— 12	— 19	— 39	— 32	— 25	— 28	— 22	— 28	— 14	— 18	— 26	— 25	— 41
Miscellaneous	— 8	— 16	— 28	— 25	— 19	— 32	— 33	— 26	— 29	— 34	— 39	— 44	— 41
Total	60	126	—196	—287	— 77	— 20	22	75	177	309	218	180	209
B. CAPITAL ACCOUNT (NET)													
New security issues	301	207	297	400	200	104	134	111	117	106	90	89	145
Securities retired	—160	—200	—150	—110	—202	—105	—166	—169	—271	—270	—178	—151	—235
Trade in securities	—184	—188	—105	— 13	— 24	— 16	51	9	51	8	— 5	29	72
Direct investments	28	18	15	23	— 1	— 31	— 74	— 51	— 52	— 74	— 83	—102	—144
Other capital items	12	81	111	15	63	37	23	— 16	— 18	— 23	— 23		
Total	— 4	— 82	168	315	36	— 11	— 32	—116	—174	—254	—199	—135	—162
C. RESIDUAL ITEM	52	44	— 28	29	— 41	— 32	— 11	— 41	3	55	19	45	47

**The Canadian Balance of International Payments* (Dominion Bureau of Statistics, Ottawa).

are usually the result of a response to changing monetary circumstances. They operate as a balancing or stabilizing device in the mechanism of international settlement, the most perfect example of which is the case of the gold standard.

For a large gold-producing country such as Canada, the statistics of gold exports are naturally dominated by the movement of newly-mined gold, most of which normally finds its ultimate destination in monetary reserves abroad. In the brief period from 1926 to 1931, when Canada was on the gold standard, monetary gold movements —that is, the export or import of gold from or to the reserves of the Dominion currency authority or of the chartered banks— were also common enough. For this period it will be found that monetary gold movements were more or less responsive to changes in Canada's other international accounts.[9] However, since September, 1931, a series of changes have occurred which make any study of the movements of strictly monetary gold irrelevant in the Canadian case. Thus monetary gold movements have not been permitted except under licence, and the gold reserves of the banks have been brought under the ownership of the Bank of Canada. In any case, it would appear that since 1932 the net movement of monetary gold to or from Canada has been small. Since 1932, therefore, the statistics of gold exports refer almost solely to non-monetary gold—that is, to the sale of Canadian production of the metal.[10]

The considerable increase in net gold exports since 1932 is to be explained, of course, partly by the increase in the world price, and partly by the increase in Canadian production which resulted from the higher price. There is no need to stress the advantage to Canada —in depression or in war—which accrues from the production of an article for which there is an unlimited demand at a fixed and profitable price. The present premium on United States funds, by itself, will add to the Canadian value of the existing level of gold production. Whether it will give a further stimulus to production depends, of course, on the behaviour of mining costs.

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[9] Not completely so. The normal gold standard procedure needs modification to fit the practice whereby the Canadian banks held gold reserves abroad as well as in Canada. Moreover, during and after 1929 the free movement of gold was partially impeded by unofficial restrictions, so that the depreciation of the Canadian dollar did not always cause an outflow of gold. Indeed, in 1930 the movement of monetary gold into Canada exceeded the outflow, despite the depreciation of the dollar.

[10] "The new method of classifying gold movements supplies figures for net non-monetary gold exports which, over a period of time, would correspond closely to the total Canadian output less domestic consumption in industrial arts. Net monetary gold exports or imports approximate to the net changes in monetary gold stocks" (*Canadian Balance of International Payments*, p. 61).

Tourist Trade. The origin of this "invisible" export and import calls for no explanation. The receipts (or credits) from the tourist trade rose from $173 millions in 1924 to a peak of $309 millions in 1929, making the tourist trade a large-scale industry and an appreciable factor in Canada's economic scheme. During the early years of the depression the volume of tourist expenditures was reasonably well maintained, particularly when account is taken of the decline of commodity exports. In 1933, however, the decrease was steep, gross receipts falling to $109 millions. Naturally the influx of tourists and the size of expenditures in Canada is influenced in the main by the state of business and employment in the United States. As domestic conditions improved, the Canadian tourist trade revived until in 1937 and 1939 it was not far short of the 1929 peak.[11] Normally Canadian tourist expenditures abroad are unusually high, and it is observable that though they vary with changes in income there is "a lower level beyond which such expenditures are not likely to drop even under very adverse circumstances."[12] Despite the low level of business in 1932 and 1933 and the heavy premium on United States funds during most of the period, expenditures abroad did not fall sharply.

The net credit balance from the tourist trade has varied over the last decade between $189 millions in 1929, $67 millions in 1933, and $165 millions in 1939. As to the present situation it is clear that the depreciation of the Canadian dollar will tend to induce further growth in the tourist credit balance, while the obstacles in the way of travel in Europe by Canadian and American tourists will tend to operate in the same direction.

Freight Receipts and Payments. This item represents, in the main, an adjustment or correction of the commodity trade statistics. Thus, the export and import statistics of Canada are actually undervalued by the amount recorded under freight receipts and payments. The explanation for this is that exports are customarily valued in the trade returns of Canada on an f.o.b. basis, that is, at their value at the point in Canada from which the goods were consigned for export.[13] But the actual price presumably paid by the foreign purchaser will include (for purposes of the international accounts) the earnings of Canadian carriers in transporting exports to the United States boundary or to ocean ports. If such exports are also carried abroad in Canadian vessels an addition of the net shipping revenues is also required. To these two forms of freight receipts must be added (*a*) the expenditures in Canada on account of British and foreign vessels (e g., harbour dues) and (*b*) freight earned by Canadian railways on the transit traffic. For example, the Canadian National Railways moves several million tons of American commodities in bond from the St. Clair River points through Ontario to Buffalo or to Quebec and Montreal. The net earnings on this traffic constitute an international receipt which is most conveniently included in this section of the international accounts. International payments (debits) arising from freight services currently exceed the total of credits. This item represents an addition to the recorded value of commodity imports, since the customs valuation does not include the cost of shipment from the point of origin to Canada. Since most imports are carried to Canada in non-Canadian vessels, or on American railways, the cost of freight is an additional and heavy debit.[14] In view of these circumstances, the balance of freight receipts and payments is always debit. The gross receipts and payments vary with such factors as the volume of imports and exports, their distribution between British and American sources of supply, and the changing level of ocean freight rates. The average net debit (1927-37) has been $23 millions, and is unusually heavy when imports are in excess of exports at a high level of total trade.

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[11] It is also significant that since the twenties the percentage of *total* American tourist expenditures absorbed by Canada has materially increased.

[12] *Canadian Balance of International Payments*, p 69

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[13] Which is usually—but not always—an inland point. The chief exception is grain. Grain shipped from Port Arthur via Buffalo has Port Arthur as the point of original shipment. The grain when carried in Canadian vessels earns inland freight which should be regarded as an addition to the customs statistics and would properly be included under freight receipts (international credits). But the value recorded for grain shipped from Montreal already includes the cost of inland freight. See *Canadian Balance of International Payments*, p. 80.

[14] Thus, the recorded value of some 11 million tons of coal imported from the United States in 1936 was approximately $26 millions, representing the price at the mine. The calculated cost of freight to the Canadian boundary —an expense borne by the Canadian importer—amounted to an additional $25 millions. The real volume of international remittances resulting from the import of American coal was therefore twice the recorded import value. If Canadian imports are placed on a c.i.f. basis after the manner of the trade returns of some other countries, the value for 1936 would have been $730 millions, as compared with the recorded (f.o.b.) value of $635 millions. Of course the difference is not all included in the freight payments for that year since the higher value includes some payments made to Canadian shipping companies or other agents.

Interest and Dividend Payments and Receipts. This item is a reflection of Canada's debtor-creditor relationship with the rest of the world. The amount of British and foreign capital invested in Canada in 1937 has been estimated at $6,765 millions. This was presumed to give rise to external remittances by way of interest and dividends of $325 millions, which is a larger outflow than that of any other debtor country. The corresponding inward movement of funds representing the earnings on $1,758 millions of Canadian capital invested abroad was estimated at $79 millions, leaving a net debit for that year of $246 millions. This figure is rather more than the commodity surplus for that year (see Table I).

The highest outward movement of funds on account of interest and dividends in the last fifteen years occurred in 1930 ($348 millions); the lowest was in 1933 ($263 millions). In the early years of the big slump, these transfers were ominously rigid. Apart from the increased real burden of the debt thrown on governmental bodies, public utilities, and industrial corporations by the reduction of revenues, the remittance of these funds placed a heavy strain upon the foreign exchanges. The reason for the comparative inflexibility of these payments is that a large portion of the foreign investment in Canada consists of bonds or other fixed interest-bearing securities. Thus approximately half the remittances of 1930 consisted of interest payments. During the subsequent four years of depression these costs increased slightly with the growth of debt. Dividend payments, however, fell from $177 millions in 1930 to $95 millions in 1933, although they had been fairly well maintained in the two preceding years. The point is that during the boom, and in the early years of depression, Canadian public authorities were still resorting to foreign borrowing—mainly to New York[15]—at the high rates of interest which then prevailed. Then again, the direct and portfolio investments made in Canada by foreigners had increased substantially during the boom, and dividend payments were maintained at a very high level both in 1929 and 1930. In the face of a serious reduction in commodity export income, therefore, these factors were responsible for the state of disequilibrium which tended to affect the exchanges in that period. Naturally the subsequent depreciation of the Canadian dollar added to the real burden of interest payments.

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[15] Interest payments on Canadian bonds held in the United States in 1931 were $180 millions, compared with $145 millions in 1926. The comparable remittance to the United Kingdom ($60 millions) was practically unchanged.

In more recent years the tendency of Canadian borrowers to confine themselves to the domestic market, coupled with the refunding and repatriation of foreign debt, has offset the increase which occurred in gross foreign debt a decade ago. Dividend payments, however, have risen to the levels of the last boom period. While the total of foreign investment remains—and is likely to remain—high, it may be expected that in the future a larger proportion will consist of equities, a type of security more appropriate to the fluctuations of the Canadian economy. It is also worth comment that the net position of Canada has been improved in recent years by the increased receipts from Canadian investments abroad. The significant investments (described as "direct" and "miscellaneous") have grown from $855 millions in 1926 to $1,301 millions in 1937, and total earnings thereon have doubled since 1933.

Miscellaneous Services. No single one of the other invisible items in the first section of the international accounts is very large, though the aggregate of transactions is substantial. This omnibus item includes the following: (1) immigrants' remittances and receipts, producing a net debit of $14 millions in 1937; (2) government expenditures and receipts—net debit of $3 millions; (3) advertising transactions—a very small net debit; (4) charitable contributions—very small; (5) motion picture royalties—a debit of $4 millions; (6) capital of immigrants and emigrants—$2 millions net debit in 1937, but in former decades a net credit item; (7) earnings of Canadian residents employed in the United States (e.g., the commuters between Windsor and Detroit)—net credit $3 millions; (8) foreign exchange on bond interest and retirements. This involved a net debit of $14 millions in 1932, when the Canadian dollar was depreciated, but was negligible in 1937 and 1938.

International Capital Transactions. The transfer of capital funds between Canada and the rest of the world normally represents a very large proportion of the total international transactions (see Table I). In 1937 the recorded inward (or credit) movement was $620 millions, while the outward (or debit) flow of funds was $819 millions. These totals were almost as large as the commodity trade figures, and the net debit on capital account—approximately $200 millions—was almost as great as the corresponding net credit arising from the traffic in commodities.

International capital movements are the most volatile of all transactions. At times they may be influenced by the shifting winds of economic and political sentiment, and therefore liable to sudden and large alterations of direction. Consequently, capital transfers may be the dominant factor behind variations in the foreign exchanges. The more extreme examples of these phenomena—the flight from the mark in 1922-3; the efflux of French funds to London and New York in 1925 and again in 1935; the migrations of "hot money" or refugee funds from Europe to New York, particularly before Munich and before the outbreak of war—all these are familiar features of the international scene in recent decades. It was the desire to control (and sometimes to prohibit) such transfers which first led to the adoption of exchange control on the continent of Europe in the thirties and which led to the invention of the more flexible technique of exchange equalization funds. The need for preventing any large efflux of capital from Canada after the outbreak of war was the most important factor behind the decision to set up foreign exchange control. However, capital movements are a normal feature of international economic relations and, while in periods of strain they may aggravate an existing state of instability, they normally operate as a stabilizing factor. Their role in Canada's international accounts may conveniently be studied under the following heads.

(*a*) *New Canadian Issues Sold Abroad.* The raising of capital by the sale of new securities outside Canada is the simplest form of international borrowing, and one to which Canadian public and private bodies have resorted for many decades. Countries which are relatively undeveloped economically, and which are deficient in capital, tend to borrow in the financial centres of the more economically mature countries where lower rates of interest normally prevail. Such borrowings have aided in the economic development of the country generally and speeded up the growth of the export trades; as such, they tend to create a larger national income and an export surplus, both of which are ultimately necessary to the repayment of interest and principal. Naturally, foreign borrowings are a significant element in the determination of the exchange rate in that they constitute an addition to the foreign exchange resources at the time when the funds are transferred. Sometimes (as in the period 1900-13) they serve to determine the scope of the commodity import-surplus. At other times (as in 1930) such borrowings may help to avoid what might otherwise be a depreciation of the Canadian dollar. But generally speaking, the sale of new securities abroad becomes feasible when economic conditions in Canada—and in the international accounts—are favourable; that is, when the exchanges need this support least.

Before 1914 the securities issued by various Canadian governmental bodies and by railways and other corporations were sold principally in London. Since the war, which had the effect of transforming the United States into the principal capital-surplus country of the world, Canadian issues have been sold mainly in New York.[10] Such new issues were unusually heavy in the period 1927-31, when the total annual new borrowings never fell below $220 millions, and reached a peak (in 1930) of $419 millions. The British quota averaged only $20-30 millions of these totals. Since 1931 the volume of new Canadian securities sold abroad has been on a much lower level—only one-third or one-quarter as high as in the boom period. In 1937 and 1938 total borrowings amounted to roughly $90 millions and in 1939 to only $50 millions.

The substantial depreciation of the Canadian dollar in 1931, reflecting the weak international position of the Dominion, made foreign borrowing more difficult. In subsequent years such factors as the plethora of Canadian funds seeking investment ("cheap money") and governmental restrictions upon the issuance of new securities in the United States tended to reduce the sale of new securities abroad. In any case, circumstances were such that during and since 1933 retirements of Canadian securities held abroad exceeded new borrowings. Up to that date, foreign borrowings of this kind had added to Canada's net foreign indebtedness. It is worth recording that during the period 1927-9 new issues sold abroad consisted, in the main, of the obligations of the provinces, railways (mainly C.N.R.), and public utility and industrial corporations. Further, a large proportion of these securities (including some sold in Canada) were optional-payment bonds. In contrast to this the Dominion Government on balance was still retiring its direct debt held abroad. Since 1930 such small amounts of new capital raised abroad (i.e., other than re-financing) have been borrowed mainly by the Dominion Government. This access to foreign exchange is now removed by the neutrality legislation of the United States.

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[10] Securities sold in London were usually taken up by British and foreign investors, but where New York issues are disposed of by mixed syndicates of Canadian and American houses, as is often the practice, part of the issue may be sold to Canadians This complicates the task of the statistician of the international accounts.

(*b*) *Retirement of Canadian Securities Owned Abroad.* In view of the large accumulation of foreign indebtedness by Canada, it is natural that in certain years portions of the funded debt should be retired. In some cases the redemption of debt is contractual (e.g, maturities, sinking fund operations, serial bonds); in other cases, issues may be called for redemption. The circumstances that determine whether and when the borrower will exercise the privilege of retiring the loan, or whether the debt will be repaid by the issuance of new securities (at home or abroad) vary from time to time and from one borrower to another. Variations in the amount of debt falling due depend on the terms of the original sale, but the fact that new issues tend to be concentrated in certain periods (e.g., 1917-18 and 1927-9) explains why maturities also tend to pile up at certain periods.

For the purposes of the international accounts the significant question is not whether the debt is retired by the issuance of new securities or repaid from budget surpluses (although this is relevant indirectly), but whether the retirement of foreign-held bonds involves the international transfer of funds. If surpluses in Canada are used to redeem debt abroad, this will create a demand for foreign exchange; if foreign debts are redeemed with new funds raised in Canada, the same is true; both are debit international transactions. It follows that, *ceteris paribus*, there is less likelihood of the foreign debt being called or repurchased when foreign exchange is at a premium in Canada. On the other hand, the existence of large obligatory maturities at such a time will usually prove doubly inconvenient to the Canadian borrower. Not only are domestic conditions unfavourable to the repayment of debt (since weak exchanges usually accompany a weak economic situation), but the premium on exchange will increase the money cost of servicing or redeeming the debt.

In the last six or seven years many Canadian securities originally floated in London and New York during or soon after the last war have been maturing; further, in more recent years the conditions for the repatriation of such debt improved rapidly as economic recovery grew. On the one hand there has been a growth of national income (and hence of savings), coupled with an expansion of bank credit under the supervision of the Bank of Canada. Both factors have tended to increase the supply of domestic funds seeking investment, and to lower the rate of interest. (The sharp fall in bond rates in New York and London after 1932 was essential to the lowering of Canadian rates.) On the other hand, the corporate demand for capital funds for developmental purposes in Canada failed to recover to the level of the twenties. Looking at the international accounts we find the growth of a surplus on current account and the Canadian dollar strong. All the circumstances, therefore, were favourable to the redemption of foreign debt with funds borrowed in Canada. It is probably significant that a North American country should find it necessary to use its domestic savings and international surpluses to redeem its foreign debts.[17] Thus, had the internal recovery been greater—and more widely dispersed—the surpluses would doubtless have been absorbed by an increase in imports. In the circumstances this was perhaps the best "investment" available.[18]

Retirements first began to exceed new issues sold abroad in 1933; for the period 1933-8 the total retirements amounted to approximately $1,170 millions. Against this some $665 millions of new securities were sold abroad. The difference ($515 millions) roughly indicates the reduction in the funded foreign debt of Canadian borrowers. The retirements principally affected American-held debt, and a substantial portion thereof consisted of optional-payment bonds. These bonds, being payable at the option of the holder in Canada or New York, or in Canada, New York, or London, had proved a particularly inconvenient and costly form of obligation to the borrower during periods of depreciating exchanges. This debt retirement programme, coupled with the effects of external conversions, has been responsible for a helpful reduction in the annual interest charges payable abroad, amounting to one-sixth of the 1931 costs.

(*c*) *Purchase and Sale of Outstanding Securities.* The greatest volume of international capital transactions between Canada and the rest of the world takes this form, reflecting principally transactions on the stock and bond markets of Canada, New York, and London. During 1937, for example, over half a billion dollars of securities were traded in both directions across the Canadian boundaries. They covered a wide variety of outstanding stocks and bonds —British, Canadian, American, and some others—the largest single group consisting of Canadian stocks. The maintenance by financial houses and brokers in Canada, New York, and London of branch offices in the financial centres of the other countries concerned, with the inter-listing of securities in various markets, facilitates the easy transference of investment funds from one country to another by this route.

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[17] Not that the net debt of Canada is necessarily reduced thereby, but the bond-holders are now residents of Canada, instead of the United Kingdom and the United States.

[18] See Bryce, "The Effects on Canada of Industrial Fluctuations in the United States," p. 385.

Over long periods the international purchases and sales of securities have tended to offset each other somewhat, although from 1933 to 1938 there was a net inflow of funds (i.e., an excess of sales over purchases) of $143 millions. Over shorter periods the movement of such funds is irregular, being determined by a complex of factors, including the prospects for the securities concerned, exchange rates, "market psychology," and the like.[10] During 1937, for example, the net movement of funds turned outwards, and coincided with the first serious stock market slump in Canada since 1933. The normal trend was resumed in 1938 with a net inflow of $29 millions, although it should be noted that the trade in securities between Canada and the United Kingdom resulted in an excess of purchases over sales for the first time for some years. The repurchase by Canadians of Canadian securities held in the United Kingdom was quite considerable, a tendency which continued in 1939. Last year the total net flow from all sources was $72 millions, the largest in seven years. Again the largest channel was that between Canada and the United States. Sales of securities to other countries in recent years have been small but steadily increasing and it seems fair to attribute this development in part to the war scare on the continent of Europe.

(*d*) *Movement of Branch Plant Funds* (*Net*). One of the distinctive features of the Canadian economy is the existence of numerous industrial and commercial enterprises controlled by the parent firms in the United States or Great Britain and commonly called branch plants Unlike the "portfolio investment" of non-residents, this is a more direct form of foreign investment and represents "an international migration of business enterprise and industrial capital and technique which is one of the characteristics of the economic organization of the twentieth century." This migration of British and American capital and direction into Canadian industry has resulted from a variety of motives. American companies have crossed the border in order to seek cheaper sources of raw material with which to feed the parent company (e.g., mining, wood-pulp, lumber). In the case of branch plants the compelling attraction is often the desire to surmount the Canadian tariff, or to take advantage of the Canadian preference for Canadian-made goods, or to enjoy the privileges of inter-imperial preferences.[20] In the case of automobiles, rubber products, and electrical apparatus the proportion of the total Canadian output produced in branch plants is quite high; in other industries less so. In 1931 there were roughly 1,200 separate branch plants of this character in Canada (68 per cent being American controlled; 14 per cent British; and 17 per cent Canadian). Total direct foreign investment in Canada today is estimated at $2,280 millions, giving control over industrial assets of $2,808 millions.

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[10] A detailed analysis of the statistics will be found in *Canadian Balance of International Payments*, chap. XVIII.

The present position, of course, is the result of the developments of new direct investment in Canada on a large scale. Since then of the "National Policy" of protection in 1879, was re-enforced by the Imperial Preferences of 1897 and by the growth of the domestic market during the decade preceding the Great War. After 1920 the establishment of branch plants gathered momentum, and the raising of tariffs during 1930 and 1931 served to encourage it still further.

In terms of the international accounts of Canada today, however, it is the movement of funds between the parent concern and the branch plant that is already established that is most significant. The parent concern may invest additional permanent capital or it may make advances in the form of cash or materials (working capital). On the other hand, the branch plant may repay or redeem its debt to the parent concern in cash, or ship goods to the parent on credit or against the reduction of inter-company debts; it may even require that the proceeds of exports to other countries be remitted to the parent concern instead of the Canadian company. All these represent international capital transactions. At the same time there is a further but much smaller movement of funds arising from the inter-company transactions of those Canadian concerns which have direct investments (or branch plants) abroad.

Until 1930 the net result of these transactions was an inward movement of funds; that year was probably the end of a period of new direct investment in Canada on a large scale. Since then the external owners have been able to withdraw capital, on balance, and to reap the rewards of their enterprise. Hence, the net result of the inter-company capital transactions has been a continuous growth in the outflow of funds. The outflow was particularly noteworthy during and after 1933 (see Table II) when the economic improvement of Canada began. Significantly enough this was also a period when the Canadian dollar was strong. The intention of foreign exchange control is, of course, to "freeze" these direct investments in Canada for the time being.

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[20] See H. Marshall, F. A. Southard, and K. W. Taylor, *Canadian-American Industry: A Study in International Investment* (New Haven and Toronto, 1936).

(*e*) *Insurance Transactions.* Many British and foreign insurance companies operate Canadian branches or agencies, particularly in the fire and casualty insurance field. On the other hand, Canadian companies do business in Europe and in Central and South America. Superficially this situation is analogous to that of branch plants; certainly the volume of inter-company transactions is considerable. The significant difference is that the agencies or branches are much more self-sufficient than branch plants. That is, premium income tends to be invested in the country in which the insurance is written; for one thing, insurance legislation usually provides a guarantee of this kind. However, there is some international mobility to insurance company investments which genuinely reflects a transfer of funds from or to Canada; and the Dominion Bureau of Statistics now obtains a direct record of all such transactions which are not recorded elsewhere in the international accounts.

There is apparently no regularity to the net movement of insurance funds and no predictable trend. In 1935 and 1936 what had previously been a small inward movement was reversed and became a considerable net outflow of funds ($26 millions in 1936). Since then the net outflow has diminished.

(*f*) *Changes in External Assets of Canadian Banks.* To complete the tabulation of international transfers it is necessary to collect information with respect to any other changes in the foreign assets and liabilities of Canadian firms, individuals, and public bodies. An increase in the net foreign assets of a Canadian corporation is equivalent to foreign investment. That is, it represents (as a rule) an outward movement of short-term capital—a debit transaction. Similarly, a reduction in foreign assets constitutes an inflow of capital funds. Most of these transfers have already been provided for, but some are more elusive. Thus a corporation may allow the proceeds of its exports to accumulate in a foreign bank account; for the purpose of the international accounts these credits under commodity trade should be offset by the entry of an outward capital movement.

Or a province may accumulate funds abroad in one year to provide for bond maturities payable in the next calendar year. The record of this short-term movement of funds is needed. In a time of unstable exchanges, firms or individuals may buy foreign exchange for the anticipated speculative profit. On the other hand, foreigners may transfer funds to Canadian banks; such inflows of fugitive capital have not been uncommon in recent years. Then the chartered banks may accumulate or draw down foreign assets on their own account. In former years they found it convenient to achieve liquidity of assets without sacrifice of profit by lending on call, or by investment in commercial paper, in the New York money market. Before the Bank of Canada existed, the self-imposed and unofficial obligation of the banks as the defenders of the Canadian dollar on the foreign exchanges also required the maintenance of outside reserves. With the decline in external money rates, the growing uncertainty of the foreign exchanges, and the development of central banking control, these stimuli to the maintenance of outside reserves have all but disappeared.

The compilers of Canada's international accounts have to assume that all such transfers of short-term capital are reflected in the operations of the chartered banks—as most of them are—and that they may be measured by the annual change in their net foreign assets.[21] To this must be added the changes in the foreign assets of the Bank of Canada, which have been considerable in recent years. The result *indicates the net movement of short-term capital* from or to Canada. During 1928 and 1929 such foreign assets were reduced by $174 millions, a trend which was continued during the depression years generally. In 1935 and 1937, however, the external assets of the banks increased. Needless to say these transfers are unusually important in the mechanism of adjustment on occasions when the international accounts are disturbed and the exchanges tend to fluctuate.[22]

Conclusions. As was said earlier the international accounts of Canada record the manner in which the purchases and sales of foreign exchange were in fact kept in balance. The annual record is the end-result of a complicated mechanism of international settlement; how the mechanism works from day to day has only been hinted at; a more precise description of that process is attempted elsewhere. But perhaps enough has been said to demonstrate the interdependence of all international transactions. In particular the record shows the broad dependence of total capital movements upon the behaviour of the balance of trade in commodities and services During the twenties the steadily growing surplus "on current account," to which should be added the receipt of capital by branch plants and from the sale of new issues abroad, was matched by an increase in Canada's foreign investments. In the case of capital movements alone both the external assets and the external liabilities were increasing, but the growth in foreign assets exceeded the growth in foreign liabilities; Canada's net debtor status was diminished.

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[21] Since the chartered banks transact an ordinary banking business in foreign centres, particularly in Central and South America, where they accumulate assets and liabilities of a strictly non-Canadian character, it is necessary to make allowance for these.

[22] See p. 277.

In 1929 and for several years afterwards the situation was reversed. The balance of trade on current account swiftly turned "unfavourable"; the net outward flow of capital was transformed into an inward movement by the drawing down of foreign balances and by the sale of foreign investments. Then, as the export trade in commodities (together with the tourist trade) improved, a surplus reappeared, and the outward flow of capital recommenced. However, two developments observable during the period 1934-9 deserve emphasis. First, the surpluses on current account were unusually large. In the absence of any developmental boom of the kind that marked the twenties the importation of the necessary capital equipment from the United States did not recur. Then again the development of Canadian secondary industries has now reached a point where domestic manufacturers are capable of supplying a larger proportion of the requirements of consumers' goods, For these reasons commodity imports did not surge upwards as they did in the twenties; the export surplus therefore grew larger.

In the second place, the corresponding outflow of capital funds began to assume a different form. In the twenties this took the form of an increase in foreign assets—American securities and the like. In the more recent period the surpluses were used to reduce Canada's foreign liabilities by the retirement of fixed debt, the repayment of capital formerly advanced to Canadian branch plants, and by the re-purchase of Canadian securities held abroad. That is, instead of adding to foreign assets the surpluses were used to reduce Canada's foreign liabilities. Since this involved a reduction in the external contractual liabilities of Canada, it was a trend to be welcomed, for it is this kind of indebtedness which proves so embarrassing to the Canadian economy when world trade slumps. And until the outbreak of war it was reasonable to assume that the Canadian balance of payments would continue to yield surpluses, which would result in a further reduction of the external debt. Whether the circumstances of a war economy will diminish this probability remains to be seen. It is possible that it will even hasten the process.

CHAPTER XVII

The Process of International Capital Movements*

N. S. BUCHANAN

Let us assume that a group of citizens of country D (the "debtor" country in what follows) offer for sale in the capital market of country C (the "creditor" country) a new issue of securities.[1] Let us assume further that these securities are bonds of a corporation in D and that the sale is successful. What has occurred so far? Certain persons in D *via* a corporation, have obtained buying power (bank deposits) in country C in exchange for which they have given a promise to pay the principal sum borrowed at maturity with interest in the interim at an agreed rate. A transaction has occurred in the capital market of country C which has international aspects and implications. Up to this point no "movement" has occurred other than a transfer of the ownership of certain bank deposits in C from nationals to foreigners. Yet in a sense a transfer is a movement; and it would be customary to describe what occurred as an international capital movement, or more correctly, as the first of several steps in an international capital movement.[2] A more precise statement, however, would be to the effect that the movement or transfer thus far was monetary in character, suggesting thereby that

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*From *International Investment and Domestic Welfare* by Norman S. Buchanan. Copyright, 1945, by Henry Holt and Company, Inc.

[1] One could rewrite what follows in terms of an increased desire on the part of investors in C to make investments abroad in D. Indeed, as a description of what has happened in times past, in the development of backward areas it might be more appropriate to indicate that the lenders usually took the initiative. Yet in the postwar period the initiative will likely reside with borrowers in the sense that they will be pressing their needs in a vigorous fashion.

[2] One reason for speaking of the first step as a capital movement is that the full complement of steps may require a long time. Borrowers and lenders have occasionally overlooked the delayed consequences of international capital movements to their disaster.

[3] Cf. the following, ". . . the *first* thing which happens when an international capital movement *is to take place, is usually that part of the monetary buying power of one country is put at the disposal of people in the other (the monetary transfer). This first step is eliminated only where goods

something more was involved.[3] [The "process" of an] international *movement is in a manner analogous to that of transactions* on the "capital" market. The immediate focus is securities and bank deposits, not capital instruments.

Let us return to our example. The borrowers in D now have bank deposits in C. At this juncture two extreme cases set the limits to the possibilities of what the D borrowers may desire to do with their newly acquired bank deposits. Assume for the present that C and D are the only two countries. In that instance the first possibility is that the D borrowers may wish to spend their bank deposits entirely on commodities or services available in country C.[4] If this be the fact, then the D borrowers acquire their merchandise, arrange for its delivery to their place of business in D, and, except for the interest and principal payments to be made in the future, the transaction is closed. The initial monetary transfer has been succeeded almost immediately by a transfer of goods. Exports from C to D are larger than they would have been had no international capital transaction occurred. Observe, however, that there is no requirement that the goods movement consist of machines or capital instruments. It may just as well consist of wheat or canned goods or services of some kind. There is no logical necessity that any particular *kind* of export effect the real transfer.

The alternative possibility at the other extreme of course is that the borrowers in D desire to spend the whole proceeds of their loan in their own country D. Clearly in this instance the possible sequences of development are more numerous than in the previous case, depending upon the assumptions that are made concerning the volume of employment in C and D, the foreign exchange relations between them, the composition of aggregate demand in the two countries between domestic and foreign goods, and others. Primary developments must also be distinguished from secondary or induced developments. Let us first consider the case of stable exchange rates,[5] with less than full employment in country D, and

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are sold abroad on long-term credit or in case imports of goods are financed by permanent loans after the shipment of goods." C. Iversen, *Aspects of the Theory of International Capital Movements*, Copenhagen and London, 1935, p. 45.

[4] The reasons why they may desire to spend in C may be various. For instance, the goods required may not be available at home or not available at such attractive prices.

[5] The assumption of stable foreign exchange rates implies that there are banks, a central bank, or an exchange fund willing to increase or decrease their (or its) foreign exchange holdings or gold holdings when others offer to sell or buy foreign exchange at given prices.

inquire as to the primary effects of a loan negotiated in C but which the borrowers desire to spend wholly in D.

The borrowers in D will sell their newly acquired bank balances in C to the banks in their own country, receiving in exchange bank balances in D currency. Since we may assume that, they then proceed with their project by hiring laborers and buying domestic materials. But the increase in employment generated in D means an increase in domestic incomes which, in turn, are spent on consumption or investment. The rise in incomes, however, is likely to cause two further consequences. First, some of the increased consumption will be consumption of imported goods, and hence tend to raise imports from C (the only other country under present assumptions). Second, with a higher level of incomes possibly a larger fraction of the goods usually sent abroad (or of goods both consumed at home and sent abroad) will be purchased by domestic consumers.[6] Thus commodity exports from D may fall off somewhat. But the combination of these—a tendency in D for imports to rise and exports to fall—will serve to diminish the bank balances in C that the banks in D purchased from the original D borrowers. In other words, the expansion of investment and incomes in D, through their effect upon imports and exports, converts the monetary transfer from C to D into a real transfer, i.e., a movement of commodities. Yet here again no logic requires that the goods transferred be of any particular kind and type.[7]

If substantially full employment prevails in D, the sequence is slightly altered. The immediate expenditure in D of additional funds will serve to raise prices above the level that would have otherwise prevailed. The additional expenditure cannot increase aggregate output in the short run because we have assumed that unemployment is negligible. Increased expenditure can only raise prices. But a rise in prices in D relative to those in C will increase D's imports and diminish its exports, and thereby eliminate the balances abroad in C accepted by the D banks when they supplied deposits at home in D to the original borrowers.[8]

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[6] The rise in incomes in D is assumed to be unaccompanied by a corresponding rise in incomes in C If incomes also are rising in C no such shift need necessarily occur. As we shall note subsequently the loan would tend to have the reverse effect in C, i.e., to lower incomes and employment.

[7] The transfer theoretically could be effected, of course, entirely through a decline in exports from D to C. C lends to D and C simply reduces its imports. Its gross exports need not rise.

[8] If we assume flexible, instead of stable, exchange rates the argument need be altered only slightly. The essential modification is that the adjustment need not occur entirely through changes in incomes or prices but the

If we drop the simplifying assumption of only two countries the essence of the analysis is not substantially changed. Let us assume that the D borrowers wish to spend their C balances not in C nor at home in D but a third country X. In this case an additional step is introduced. The banks in C must be willing to reduce their deposit liabilities through a (temporary) reduction in their holdings of balances in country X. The D borrowers then procure their merchandise and proceed homewards. But what of the real transfer? Clearly it has already occurred between X and D. But what of C, the lending country? Unless the banks in C are willing to see their balances in X permanently impaired (and there is nothing in the loan transaction *per se* to suggest this) then they will take steps to restore their balances in X to their previous level. (Under flexible exchange rates they will perhaps charge higher prices for X currency.) Imports from X will thereby be discouraged and exports to X from C will be stimulated. Both work in the direction of restoring the C banks' balances in X through raising exports from C to X relative to imports from X to C. One could also supplement the classical argument here by assuming that the purchases of the D borrowers in X stimulate employment and incomes in X and so tend to raise imports in X relative to exports. Similarly one could argue that the reduction in bank deposits in C[9] would react unfavorably on either employment and incomes and hence on imports, or upon prices, if there is little unemployment, with a similar result.[10] In any case the money transfer is followed by a real transfer, in this case three cornered, such that exports minus imports in C, the lending country, is a greater figure than before the loan was granted. The real transfer is from C to X to D, although the time sequence in the case discussed was actually from X to D as one step and from C to X as another.

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exchange rate itself, i.e., the price of one currency in terms of another, can also ease the process. The borrowing in C for expenditure in D will tend to raise the price of D currency in terms of C. That is to say, more units of C currency must be paid for a unit of D currency or, as it is expressed with almost equal frequency, less D currency is obtainable for a unit of C currency. Regardless of the mode of expression the effect of the loan transaction on the rate is to raise imports and diminish exports in D and vice versa in C. A single loan transaction unless of great size, however, would be unlikely to alter the exchange rate perceptibly. A stream of foreign borrowing with flexible exchange rates is another matter.

[9] Bank deposits are reduced because the banks in C have surrendered foreign assets against the reduction of domestic liabilities, the deposits.

[10] This assumes that the reserve position of the banks determines their lending policy. But this need not be the case. An "offsetting" policy, such as followed by the Federal Reserve authorities in the '20's would avoid the need for any deflation in C as a consequence of the lending transaction.

We stated initially that the relationship between the money transfer and the real transfer could be elucidated by an examination of two extreme cases: first, where all the proceeds of the loan are to be spent in the lending country; second, where the proceeds are to be spent entirely in the borrowing country. It is self-evident, of course, that these are merely two "pure" cases at the extremes. What would be likely to occur in the real world would be some combination of these two extremes, with the complication of the borrowed funds being spent partly in third or fourth countries. Yet it should be clear from what we have suggested thus far that the sequence would be a mixture of the pure cases already considered The net result would be the same, a monetary transfer succeeded by a real transfer, unless one introduces the special assumption that for some reason the borrower wishes to hold idle balances in the lending country, at home, or in third countries.

CHAPTER XVIII

Some Aspects of Canada's International Financial Relations *

C. D. BLYTH

One of the effects of the war upon Canadians has been to make us more conscious of our international financial relations. The rapid changes during the war, bringing with them problems which demanded immediate solutions, have radically altered Canadian economic relations with the rest of the world, and have made for a new awareness of the implications of these changes and the new responsibilities accompanying them. The war showed how adaptable nations can be under the pressure of circumstances, but the ability of human beings under pressure to adapt themselves to their environment often outruns their ability to understand thoroughly what is happening, and to make the more fundamental adjustments which new situations require. The full significance of war-time changes on our balance of payments and international position will probably not be entirely clarified for some time to come, but new potentialities have been revealed of previously unplumbed depths of capacity.

Along with the revelations of productive capacity came new experience with the financial aspects of Canada's international economic relations and the currency problems which are inherent in the structure of the Canadian balance of payments. Being closely allied to internal finance and the larger questions of the economic mobilization of total war, these international financial factors may have been overshadowed at times. But the full significance of the war-time international relations of the Canadian economy should not be overlooked, for they clearly show the extent to which full use of Canadian productive facilities is dependent upon external and special demand, and provide further evidence of how closely geared general activity in Canada is to exports. Studies of national income and expenditure show the place which the net export of goods and services has in the maintenance of national economic activity. So long as the

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Canadian economy maintains its present structure, it will be highly dependent upon the stimulus of external demand, since income generators like internal investment and consumption do not appear to have the potentialities under present circumstances which would permit them in themselves to maintain Canadian production at a high level.

The war accelerated some basic economic changes affecting the Canadian balance of payments. Some of these changes, however, had been developing for a period of years before the war. Consequently, the economic structure of Canada after the war still presents much the same outline as before. While Canada is now more highly developed industrially than before the war a process of industrial development was also evident throughout the inter-war period. Much of the productive capacity, however, that which was developed between the wars as well as most of that developed during the war, was in response to external demands, with the result that Canada is probably more dependent than ever upon external markets for maintaining a high level of employment of her productive resources. The under-employment of Canadian economic resources before the war concealed the latent capacity and to some extent the high degree of dependence upon external demand which existed at that time. The great rise in exports during the war is not by any means all due to new productive capacity. A considerable amount arises from a greater use of the capacity existing before the war, especially in the staple industries producing food and raw materials.

During some of the transitional years at least there is the prospect of a much fuller use of the capacity of the country than before the war. Internal investment, deferred consumer demands and more evenly distributed incomes will all contribute towards maintaining demand at a high level. Super-imposed upon these abnormally high internal demands will be the greatly swollen external needs for Canadian products arising from the world-wide scarcity of commodities, and Canada's programme of export credits ensures that much of the external demand will be effective.

The relative magnitudes of some changes in the balance of payments during the war are suggestive of the transformation which has occurred. Canada probably underwent greater changes during the recent war than did the United States in the First Great War. The increases in the volume of Canada's international trade and the credit balance on current account during the recent war were all greater in degree than the corresponding changes in the United

States during the First Great War. Some of the relative changes also are comparable with changes in the United States international accounts during the recent war as well. Exports of goods by both countries quadrupled during the war and payments for imports have about doubled.

There is no need here to describe in detail the structure of the Canadian balance of international payments. It is sufficient to remind ourselves of the wide disequilibrium in Canada's accounts with both the United Kingdom and sterling area, and the United States. With the United Kingdom, and to a less extent with the rest of the sterling area and other overseas countries, there have been large credit balances on current account for a long period of years, arising from the customarily large volume of Canadian exports, primarily of food and raw materials, to Britain and Europe; while with the United States the customary deficits on current account spring from Canada's propensity to consume more American commodities than its income from exports of goods and services to the United States can cover, along with the large payments of income on United States investments in Canada. Before the war this disequilibrium was to a large extent offsetting and did not create the financial and currency problems with which we have been beset since the beginning of the war, for sterling income was formerly freely convertible into United States dollars, making it possible to cover the current account deficit with the United States with income from overseas trade each year since 1934, the year when the succession of credit balances on current account with all countries, to which we have now become accustomed, first appeared.

The war-time changes had the effect of greatly widening the disequilibrium in the current account with each area, and the financial and currency problems arising from the inconvertibility of sterling into United States dollars are well known. The problem of the Canadian shortage of United States dollars was successfully met principally by the control of exports of capital through exchange control, by sales of munitions to the United States government, United States government expenditures on defence in Canada, abnormally large sales of grain to the United States, and a persistent and growing disposition of United States investors to buy Canadian bonds which has been very evident since 1942. Gold and United States dollars were also received from the United Kingdom in certain years in partial settlement of the British deficiency in Canada. The financial effects of the war years have been a sharp increase in American investments in Canada and a decrease in Canadian long-term investments in the United States accompanied by a substantial increase in Canada's liquid assets in the United States. As a result Canada is much more heavily indebted to the United States on long-term account, although since liquid reserves have expanded the overall change in position has not been large. The indebtedness is widely dispersed, the creditors being numerous institutions, corporations, and individuals in the United States.

The methods employed in financing the British deficiency of Canadian dollars during the war are also well known. The major part of the current deficit was covered by mutual aid and the billion dollar contribution, but as a result of official and private repatriations of securities and the $700 million loan of 1942 the balance of Canadian indebtedness to the United Kingdom has been sharply reduced.

The continuing British shortage of Canadian dollars after the end of the war is one of the major financial problems facing Canada. The loan of $1,250 million to the United Kingdom resulting from the recent Anglo-Canadian Financial Agreement is the principal means adopted of ensuring the continued flow of trade between Canada and the sterling area during the transitional years. The terms as will have been recognized, are closely parallel to those embodied in the Anglo-American Loan Agreement.

The export credits to other countries under the Export Credits Insurance Act are the other principal financial means of meeting the post-war transitional situation, apart from the establishment of the international fund and bank. The total of credits which may be authorized under the act is now $750 million and most of this has already been allotted. While the largest amount is being loaned to the countries of Western Europe some credit has also been extended to other European countries and substantial amounts are being advanced to Asiatic countries.

The total credits being advanced by Canada under the British loan and the export credits legislation are something like twice as much on a per capita basis for Canada as are the corresponding international credit plans which have been announced by the United States government. In relation to national income the Canadian credit programme is even more impressive, representing a much larger ratio of national income than does the American. It is also likely to represent a much larger percentage of government expenditures than the United States lending programme. Canadian exports, of course, occupy a much more important place in the functioning of the Canadian economy than is the case with the United States and the international credit arrangements of the Canadian government reflect a recognition of this fact.

It is the wide disequilibrium in Canadian trade with overseas countries, accentuated under present conditions, which is drawing Canada into spheres of international finance, to an extent which, with the scale of values existing before the war, might have seemed fantastic. The Canadian solution of the war-time problem of disequilibrium was a bold and resourceful one. Financial obstacles were not permitted to interfere with the flow of much needed foods, raw materials, and munitions to Canada's overseas allies during the war. It is the pattern of international supply and demand in our trade with overseas countries which makes financial assistance necessary during the transitional years as well. This pattern, giving rise to consistent credit balances on current account before the war, has been accentuated by post-war conditions of supply and demand. While the war-time movement of commodities reached levels which few would expect in the foreseeable future, economic expansion in Canada during the war, deferred demands and acute shortages overseas, and changed sources of supply are all contributing towards the maintenance of much larger exports during the transitional years than ever were experienced before the war.

The disequilibrium, moreover, is accentuated by the scarcity of commodities for export in the overseas countries which are buying Canadian commodities, and by the industrial and social problems which are inherent in the reconversion of nations from the total prosecution of war to a peace-time basis. These gaps in the current accounts between Canada and overseas countries which are being filled by special loans and export credits will naturally be reduced as time goes on and the abnormality in the demands arising from accumulated needs and reconstruction requirements, and shortages of commodities available for export in the overseas countries are reduced. *To a large extent then, the need for credit is a short-run affair*, being automatically reduced as reconversion progresses.

But while loans and export credits to overseas countries obviously perform essential functions at present, *they can only be completely appraised* by viewing them over the longer-run as well. Being loans, they create foreign liabilities to Canada which will come due in the future and provide external income for Canada. *It is the longer-run financial implications* of the loans which give rise to more speculation.

It is not, however, the financial capacity of the borrowing governments to make repayments which is so open to speculation, if the long-run purposes of the loans are accomplished, that is, the building up and restoring of the economies of the borrowing countries. Probably the more critical factor will be the ability of the countries to make international payments on capital account. This will depend to a large extent upon the background of international trade and finance. But given favourable international conditions, which to a large extent should be the result of the North American loans, there should not be any formidable transfer problem so long as Canada is prepared to take repayment in the form of greater imports of goods and services.

Thus if all goes well internationally, the ball is really passed to Canada. For if this nation is to realize eventually upon the foreign assets which are being created by export credits, it will be necessary for it to adapt itself to the position of a creditor nation in relations with overseas countries, for it will not be long before Canada is in fact a creditor nation in so far as its financial relations with the overseas world at large go. The existence however of a substantial balance of indebtedness to the United States will, for a long time at least, more than offset Canada's creditor position with the rest of the world. Nevertheless, the creditor position with overseas countries will inevitably impose a new set of conditions to which the Canadian balance of payments with these areas will have to be adapted The difficulties experienced by the United States in the nineteen-twenties in recognizing its new position in international finance brought about by the First World War are well known. Psychological inhibitions have often been attributed as the source of much of the inadaptability in the inter-war years. Needless to say, the Canadian public mind will also have to undergo some basic transitions in its thinking about Canada's place in international finance. The late war has assisted in this transition by producing such great changes in a short period. The time is not far distant when Canada will have to be prepared to import much more heavily from overseas than in the past. The exceptionally large credit balances in our current accounts with overseas countries likely during the next few years can not be expected to be maintained for long.

But like the United States, Canadian demand for commodities and services provided by overseas countries is much less than the demands of these countries for Canadian commodities. The established pattern of Canadian demand is such that a major part of

Canadian imports normally originates in the United States rather than overseas countries. This is particularly the case with respect to many manufactured goods for which the principal source of Canadian supply is the United States. While Canada normally purchases substantial amounts of tropical foods, raw materials, and some quality manufactures and luxuries from overseas countries, the aggregate value of these is subject to the limitations of Canada's relatively small population and the prevalence of North American consumer tastes.

Of course, in an ideal multilateral world, accounts with overseas areas would not have to be balanced bilaterally, but it must be recognized that it would be an unhealthy development if there were to continue to be very large credit balances in Canada's current account with overseas countries during an indefinite period in the future in which these countries are heavily indebted to Canada on long-term capital account. It might be possible, of course, for Canada to take some repayment from these countries in the final form of larger Canadian imports of United States goods and services. This might seem to be a natural line of development since the Canadian way of life gives rise to a special propensity to consume American products. But this would widen further the disequilibrium in Canada's accounts with the United States, as the current account deficit would expand.

Experience with depression and accompanying exchange strains and instability in the nineteen-thirties, however, has issued a warning to nations that very wide diseqilibrium between any two countries is undesirable when economic conditions become adverse. It seems certain that nations in coming decades cannot afford to be as indifferent to bilateral disequilibrium as was often the case in the past, even if there is some restoration of multilateralism and the greater freedom of international commerce which conditions of this kind imply. But if complete multilateralism is not restored this potential future disequilibrium becomes an even greater problem for the maintenance of stable international financial relations. While the aim of financial policy in North America is for the re-establishment of conditions of multilateralism and stability, it would be optimistic to expect an international Utopia in which there was sustained stability.

This position in which Canada and the United States seem likely to find themselves in the future will have many parallels. The loans which both nations are advancing to overseas countries during the transitional years can only be repaid later by the overseas countries in the form of goods or services imported by the creditor countries. This necessary condition of repayment which is a truism in the case of a single country is likewise true if the two countries are regarded as one area, a North American creditor area. If the North American creditor area is to realize on its overseas credits in the future, the area must purchase more from overseas than it sells overseas over the longer run. In the case of Canada, then, repayment in the form of increased imports from the United States is no long-run solution unless the United States in turn imports more from the overseas area than it otherwise would have bought, or unless Canada exports less overseas. For if the overseas area as a whole is to reduce its indebtedness to America it must have a credit balance on current account with this continent.

In some respects, the United States may be more favourably situated than Canada for receiving repayment of the loans. With its much larger population, possible depletion of resources, and higher standard of living the United States should be a large potential importer. In the lending programme so far announced, loans by the United States are much less in relation to population and national income than the Canadian loans. These relationships have some significance for the future when the loans are being repaid. The country making larger loans in relation to population and income will likewise have to accept larger amounts of goods from abroad in repayment in relation to the same factors. While Canada in the past spent a larger portion of Canadian income outside of Canada on goods and services than did the United States, almost one-quarter in 1939 compared with about 5 per cent in the case of the United States, most of these external expenditures by Canada were in the United States. Current expenditures by Canada on goods and services in overseas countries in the same year were about $349 million or something like 8 per cent of the Canadian national income and $30.00 per capita, compared with United States current expenditures in the rest of the world apart from Canada of approximately $3,000 million, a figure which amounted to only about 4 per cent of the national income of the United States and less than $23.00 per capita.

A growing population and a higher standard of living in the future would facilitate repayment by expanding import requirements. But it does not seem likely that future depletion of resources in Canada will expand Canadian imports from overseas, as much as it may reduce certain exports in the long run; and some new resources which are being developed in Canada will result in the long-run reduction of certain imports. The possibility of increasing the travel expenditures of Canadians overseas is not very encouraging. The population is small and Canadians already spend a larger percentage of their incomes on travel outside of Canada than do Americans outside the United States. Furthermore the United States is the most favoured area for travel by Canadians.

The form in which Canada takes repayment of post-war credits is therefore very important. But so long as the structure of Canadian demand has its present characteristics, the international flow of commodities characteristic of the past will likely continue to result unless *some direction is given to it. While it would be possible to change* some sources of supply, this could only be done in many cases by arbitrarily controlling demand. If it were intended to divert Canadian trade very materially, it would require fundamental changes which would involve techniques never employed extensively in the past. Consequently, unless there is some positive direction given to Canadian trade, the outlook is for patterns of Canadian trade not widely different from those existing at present. Since these are the facts of life for the Canadian economy, it follows that the consequences *of this situation, giving rise to wide disequilibrium in Canada's* accounts with different parts of the world, must be accepted, unless the alternative of deliberate direction of trade is accepted and not regarded as being outside the realm of practical affairs. If conditions of international trade are permitted which make repayment of post-war debts difficult, we must accept the consequences. There is some responsibility upon Canada like the United States for making the overseas supply of dollars adequate and the conditions of trade suitable.

Before leaving this question of financing exports during the transitional years there is one other aspect of the loans which should be pointed out, the movement of capital from the "new world" to the "old world" for reconstruction and rehabilitation. Unlike the predominant capital movements in more pristine eras in the past, the capital is largely to restore old economies rather than to assist new economies in the process of development. Too much should not be anticipated from its long-run effects, since world productive capacity is not being expanded. The loans will only offset some of the set-back caused by the war. Earlier periods of international investment had a healthier background. They built up a new capital investment in young developing economies which later were *to increase the means of ser-*

vicing and repaying debts.There is consequently no reason for expecting a brave new world to result automatically from the loans after the transitional period is over. The loans are performing a special pressing current function during the transitional years and international commerce in the long run will have to be built upon a firmer basis.

Canada's place in post-war international finance will be complicated by the existence of a large balance of Canadian indebtedness to the United States, combined with a probable deficit in the current account with that country. The merchandise balance with the United States is usually the most variable factor influencing the current deficit Diverging trends in incomes and production in the two countries would be a dominating influence upon the movement of commodities and the balance of current payments.

The relationships between Canada's accounts with the United States and overseas countries spring from both internal and external factors. Among the internal factors are the effects of high levels of production in Canada upon the Canadian balance of payments with the United States. Large exports to overseas countries supported by export credits from the Canadian government make for active conditions in the export industries with the generally stimulating effect which this has upon Canadian activity. Incomes in Canada are consequently likely to be high under such conditions and a large part of the enhanced incomes will normally be spent in the United States upon imports, travel, and other services and income payments The exact strength of these relationships under conditions of high income and activity in Canada is not exactly known as there is no previous period with conditions which are closely comparable to those which may be experienced during the next few years. There are, however, some discernible relationships between the level of Canadian income and activity, and the level of imports from the United States and other expenditures in that country. It has only been during the abnormal war-time years, however, that incomes in Canada have been in the higher ranges which are anticipated for some time at least after the war, but the abnormalities of the war-time period prevent drawing any positive conclusions as to what the relationships would be under more normal conditions of consumption and supply.

Under peace-time conditions the most active early period was that culminating in 1929, but the level of activity even at that time was considerably less that what is currently being experienced and the population was considerably smaller. The capacity of the Canadian economy for meeting its own demands during the nineteen-twenties was less than it is at present. There was a greater dependence upon imports during those years than now exists, since Canada's productive capacity has developed very materially in the intervening years. This process of rapid development was still under way during the latter boom period in the nineteen-twenties, and even in the depressed thirties there were some significant developments in Canadian industry. Added to this enhanced capacity at the beginning of the war is the entirely new war-time development, a very great industrial expansion in the space of several years. The future productivity under peace-time conditions of much of the latter, of course, remains to be seen. Nevertheless, a rapid concentrated development of this kind has the effects of creating industrial skills and secondary industrial facilities and services which would not have been brought into being otherwise. All of this points to less Canadian dependence on foreign sources of supply. The effects of this on imports in more specific terms can only be conjectured. The record of the thirties reveals less dependence upon many imported commodities, and it seems likely that this independence has been considerably extended in the intervening years.

But while this will reduce or eliminate Canada's imports of some specific commodities, it is obvious that the volume of imports of some other commodities will be considerably higher under the high levels of Canadian consumption, investment, and production for export which are likely in the coming years. With higher levels of consumption in Canada, it can be expected that Canada will import more commodities of the types which are not produced in Canada and which are usually purchased in the United States. With higher incomes, other Canadian demands for imports might appear which were not at all appreciable under income conditions of the thirties. With a large part of the rise in Canadian incomes in recent years being concentrated in an improvement in the position of lower income groups, new demands formerly originating in the middle income groups might emerge.

A revival of internal investment in Canada would give rise to demands for another group of commodities normally obtainable in the United States. If private investment in Canada is heavy during the years of reconstruction, it can be expected that imports of machinery, and industrial and household equipment will all be heavier than they were in the years immediately before the war, since that period was one which was starved and depressed by the low level of investment. But, imports of capital equipment are not likely to be as high relatively as they would have been before the war, had demands at that time been as high as they are likely to be in the transitional period, since it has been in this field that Canadian industry has made great strides, with the result that Canada is much less dependent than formerly upon external sources of supply. Nevertheless many types of industrial equipment are still normally purchased in the United States, especially replacements of machinery and equipment originally purchased there, as well as some types of heavy equipment for which there is not a large enough Canadian demand to promote production in Canada.

It should also be recognized that high exports, particularly exports of manufactured goods, lead to larger direct imports from the United States because of their substantial United States dollar content.

If it is possible to appraise properly these various diverging tendencies it would seem that the prospect is that Canadian imports from the United States will be very heavy during the transitional years, but will be a significantly smaller ratio of the national income than they would have been if the same levels of production and incomes in Canada had been attained in earlier decades. In addition to the volume of imports which would normally be associated with postwar levels of incomes and production, there is the factor of the deferred demands which have been accumulating for some years and the necessity of building up inventories and stocks of goods in the process of production.

The effects upon the current account with the United States of these heavy Canadian demands for American imports, which can be expected for a considerable period, will depend, of course, upon the size of Canada's income in the United States from the sale of goods and services. The most important factor influencing this will be the level of production and incomes in the United States. If levels even approaching those attained in the latter part of the war are maintained for some time, there is little doubt that Canada will have very substantial receipts of United States dollars from current transactions which will go a long way at least towards covering the expenditures. But there are distinct limits to the size of Canadian exports to the United States under normal conditions since much of the American demand for Canadian commodities is concentrated on a relatively small number of commodities, falling for the most part in the field of primary production. Most of the recent industrial development of Canada is a response to either overseas demand or internal Canadian demand, and the range of commodities produced which might find a market in the United States has probably not increased very greatly. The level of American purchases of some commodities, however, fluctuates very widely, depending on internal supply situations in the United States. One of the best examples of this is the American demand for Canadian grain during the later years of the war arising from fairly temporary conditions in which there were unusual shortages in the United States, combined with temporary heavy requirements for industrial purposes and feed. American purchases of Canadian grain in 1944 expanded to more than $300 million, an amount which exceeded the level of all Canadian exports exclusive of gold to the United States in 1938.

The possibility of more stable and diversified exports to the United States appears to rest upon more economic stability in the United States at a high level of activity, and upon tariff changes which would open a larger, more permanent American market for Canadian products, which in many instances are now barred by tariffs. There are also other large sources of United States dollars with potentialities for expansion. Gold production which receded so sharply during the war is due to expand once the supply of labour in the mines improves. The new mining areas ,which are being opened up and developed hold the prospect of future gold production exceeding the pre-war level. The outlook for revenue from American tourists is also promising, the rapid recovery in 1945 indicating the resilience which lies in this source of receipts. But the potential size of Canadian travel expenditures in the United States should not be overlooked in appraising the outlook for net receipts on travel account.

But even with these more promising sources of revenue, the possibility of Canadian current receipts from the United States in the future being large enough to eliminate or to reduce the persistent deficits with that country to a negligible size will depend, to a large extent, upon the degree of economic stability in the United States and the extent to which tariff barriers are reduced.

The external factor affecting the inter-relation of Canada's balance of payments with overseas countries and the United States, arises from the general conditions of international trade and finance prevailing in the world at large. When these conditions are good the whole balance of payments reflects the prevailing tendencies and the volume of international trade with all areas is usually influenced by the same general tendencies. International financial conditions which permit the convertibility of sterling into United States dollars are necessary if Canada is not to be obliged to export capital indefinitely on a large scale to the United Kingdom and certain other countries, and import capital from the United States, or to use external liquid reserves for meeting deficits with that country.

A discussion of the conditions under which a system of multilateral settlements which would permit a restoration of exchange convertibility might be brought about introduces wide prospects. It is not the intention here to enlarge on the international outlook in particular but rather to underline the importance of restoration of multilateral trade. International institutions like the Monetary Fund and International Bank have been set up with this as one of their main objectives. The significance of the Fund for Canada probably lies primarily in the place which it has in the efforts for the restoration of international trade on a multilateral basis. It is not unlikely that Canadian dollars will be scarce in many countries for a considerable period in the future and that Canada's contribution to the fund will be a means of financing temporary needs for Canadian dollars.

Export credits and loans on a generous scale are being advanced to countries in need of temporary financial assistance. Organizations like UNRRA have also been established to perform temporary functions arising out of needs for relief and rehabilitation. Similarly the Anglo-American Loan Agreement and the Anglo-Canadian Loan Agreement have been designed to assist in the restoration of multilateral trade by freeing the world from the restrictions and discriminatory practices which would probably result if credit facilities of this kind were not made available to the sterling area. Besides the institutions and measures mentioned above there are the preparations being made for reductions in trade barriers in the principal countries in the forthcoming meetings to consider an International Trade Organization.

There can be little question that the main short-run objectives towards which these various measures are directed will be accomplished. Sufficient credit to restore international commerce and permit the necessary flows of commodities to countries undergoing reconstruction will be forthcoming during the transitional years. It is more difficult to appraise the success likely in reaching the longer-run objective, the permanent restoration of multilateral trade at a high level. Some of the long-run implications of present policies have been discussed. Ultimate success may only be achieved if international trade is directed into channels which are compatible with finance situations. The place which government should occupy in all of this is a subject upon which there is a great variety of opinions. The establishment of international institutions and organizations in this field, however, is a recognition that some responsible observation and direction of the course of international commerce and finance is necessary.

Some special factors inherent in Canada's position stand out. There is the necessity of taking substantially increased imports in the future if export credits are to be repaid. But the undesirability and latent danger in taking repayment largely through increased imports from the United States is apparent. Yet the natural play of international supply and demand is likely to continue to maintain wide offsetting disequilibrium in the accounts both with overseas countries and with the United States unless some positive direction is given to the flow of trade. Canada's international position will, therefore, be complicated and possess an inherent insecurity unless the two types of extreme bilateral disequilibrium characteristic of the Canadian balance of payments can be greatly reduced. Some long-run readjustments in the productive resources of Canada would assist if they made the country less dependent upon international trade. Positive direction to the course of the country's international commerce would also assist in reducing the disequilibrium. While a restoration of multilateralism holds promise of reducing this insecurity so long as economic activity continues at a high level, there will nevertheless still be an unusual vulnerability to international conditions if the wide disequilibrium between Canada and the two areas cannot be reduced.

One may at least entertain the hope that in the dim future lying beyond the transitional years, new methods of conducting international economic relations will emerge, from a combination of new institutions, confidence gained by fresh experience, and a long memory of the mistakes of the inter-war years.